

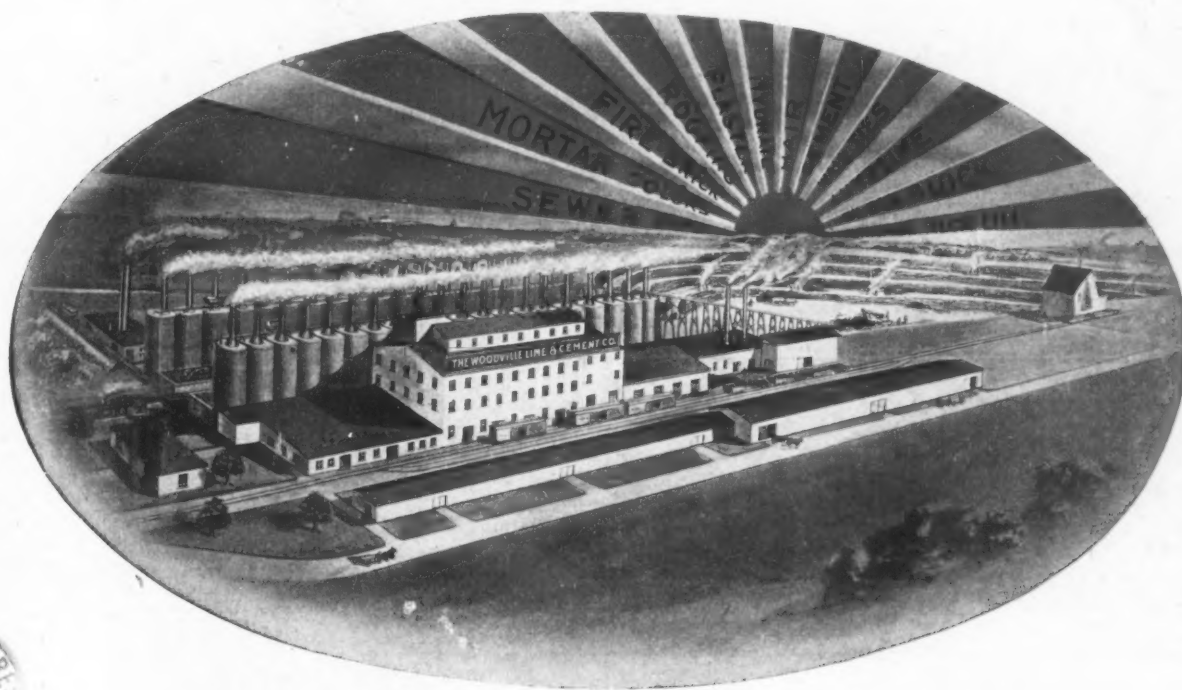
Rock Products and BUILDING MATERIALS

INCORPORATING DEALERS BUILDING MATERIAL RECORD

Volume XV.

CHICAGO, ILL., JANUARY 7, 1915.

Number 5.



"THE BEST UNDER THE SUN"

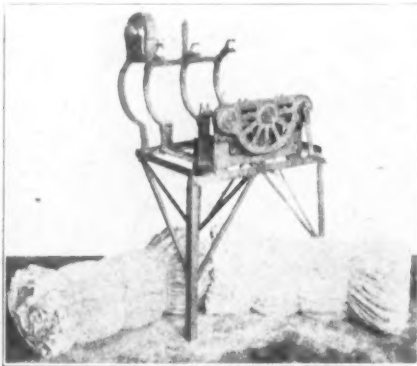
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"It does the work of three men."

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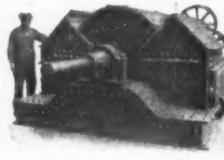
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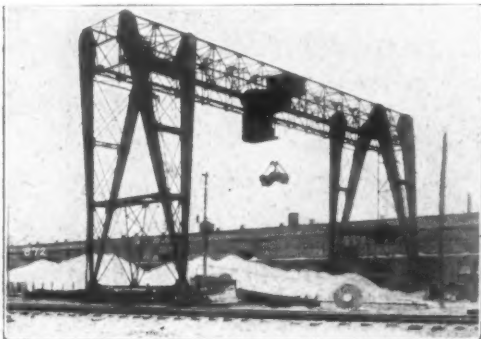
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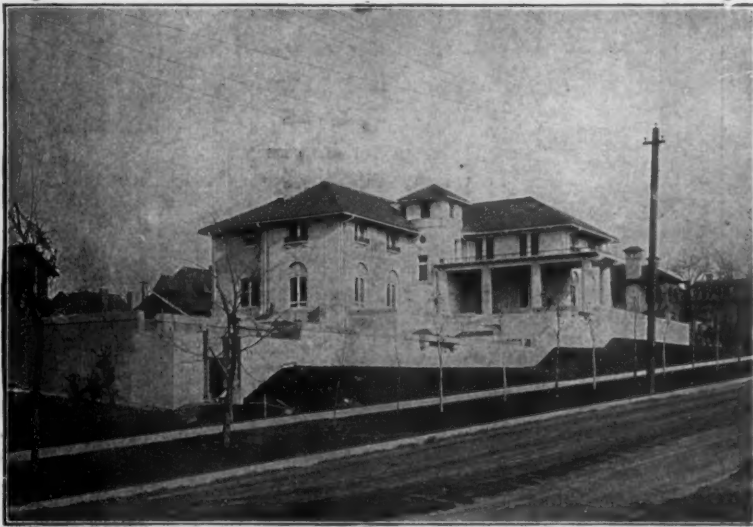
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Biscoe & Hewitt, Architects

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Medusa White Portland Cement

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Marquette Portland Cement

has proved itself sound, reliable and 100% efficient—over and over again. A dealer who carries Marquette is going to build up the right kind of a trade. He will like to do business with us; we believe that the Science of business is the Science of Service.

The green guarantee tag on every bag of Marquette Portland Cement means we have made it better than government specifications; as much better as possible.

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The Reliable Portland Cement

A Portland Cement for the
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**North-Western States Portland
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*The Plaster That Stands
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The permanent plaster for interior walls.

May be retempered as often as necessary.

Makes a perfect bond on concrete, brick, tile or lath.



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It is a fact that the contractors who are using the most "CHICAGO AA" Portland Cement, are the ones who have been using "CHICAGO AA" longest.



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**YOU SHOULD HANDLE
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Because it's the only perfect Hydrated Lime and you can get increased business by recommending it. It's uniform. It's fine. It won't "blister" or cause "chip cracks" and "crazing."

You get the benefits of Monarch advertising service. You get the business that others are getting now.

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CAREY, OHIO

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Capital \$1,500,000**THE OHIO AND WESTERN LIME CO.**

Manufacturers and Wholesale Dealers in

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We have large stone crushers at various places. We make a Magnesia and high Carbonate of Lime. All of these limes are the very best on the market.

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OFFICES AT

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BANNER HYDRATE LIME

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MASON WORK and PLASTERINGSold to **Dealers** only

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A. H. LAUMAN, President

PITTSBURGH, PA.



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A multitude of pretentious residences in a score of states are giving ample proof of the long-lasting surface of Reynolds Flexible Asphalt Shingles.

Every type of modern home can be protected and beautified, at lower cost, with these time-

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Reynolds Asphalt Shingles

Guaranteed for 10 years—will wear many years longer—
Write for liberal agency proposition.

Rough-surfaced weather defiers made of crushed slate or granite securely embedded in pure Asphalt. Natural colors of garnet, red or gray-green which never fade and never need painting. We are the original makers of flexible asphalt slate shingles and tested them for ten years before putting them on the market. They are uniform in size—8 ins. by 12½ ins.—and are laid 4 ins. to the weather. Easily and quickly laid.

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WOOD FIBER
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Fireproof Partition Blocks

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Steel Studding

Known as Brands of Quality

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AMERICAN CEMENT PLASTER COMPANY

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Was used on the Omaha Post Office, as well as many other

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Those who have used our Minerva Tile are our references.

You ought to get our prices.

The Metropolitan Paving Brick Co.

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NEGLEY PATENTED EXCAVATORS PERFORM ALL OPERATIONS

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THEY DISCHARGE FAST OR SLOW AT EITHER
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THE SMALL CLEARANCE PROVIDES
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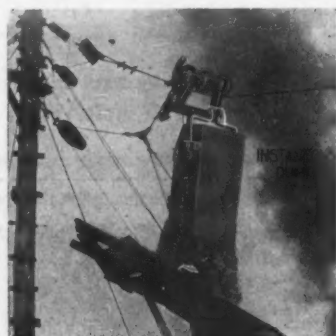
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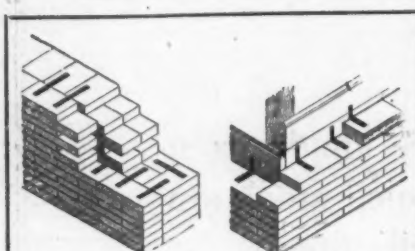
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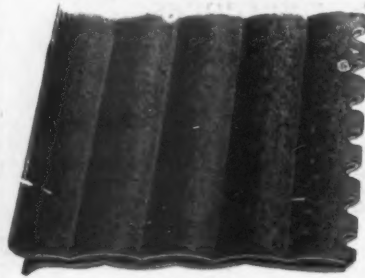
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Tie for Solid Wall

Tie for Veneered Wall

2 1/2 inches long x 2 1/2 inches wide



Nailing Plug

When a Wall Tie is a Wall Tie it is the Whalebone

Made in any length from five inches to fifteen inches.

Standard size for Solid or Veneer walls 7 inches by 7/8 inches, weighing 50 pounds to the M. Packed 1000 to the box.

Price on Standard size, based on 21 gauge material, \$2.50 Pittsburgh per M, subject to dealer's discount according to quantity of order. Shipments made same day order is received. Special propositions in open territories.

Can quote on lighter or heavier material if desired, as we can supply the Whalebone in boxes weighing from 35 pounds to the M to 85 pounds to the M, according to thickness of material.

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Bell Phone: 718 Cedar

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YOU ARE INSURED A PROSPEROUS NEW YEAR

IF YOU HANDLE **BOSTWICK** PRODUCTS

BOSTWICK "TRUSS-LOOP" METAL LATH

BOSTWICK "TRUSS-V-RIB;" BOSTWICK "DIAMOND A" EXPANDED METAL; BOSTWICK METAL CORNER BEAD; BOSTWICK METAL GROUND BEAD; BOSTWICK METAL WALL PLUGS; BOSTWICK "Y" 3 STRESS, 3 WAY, WALL TIES; BOSTWICK CORRUGATED WALL TIES.

EVERY ITEM HAS QUALITY AND SELLING POINTS THAT GET THE BUSINESS
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BRICK—The Old Way of Handling Them is a Nuisance

In tossing brick out of a car many are broken. A wheelbarrow doesn't carry enough bricks to warrant the time it takes to load, wheel it out and dump it.



Use a CLEVELAND BRICK CLAMP

It is the Newest and Quickest Way

Furthermore, in unloading brick it actually saves ONE-THIRD of the time over the old methods. This clamp is adjustable and will carry from FOUR to TWELVE bricks. There's no fuss or bother. Simply place the clamp down on the bricks and lift the handle.

The price? It is so inexpensive ANYONE can afford it. Just send your name on a postal and we'll send a neat catalog and price list.

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HOW YOU CAN

INCREASE

THE EFFICIENCY
OF YOUR PLANT

TRAYLOR LARGE JAW CRUSHERS

are strongly recommended as initial machines where large capacities are desired. They take rock direct from the steam shovel and save drilling and quarrying expense. Our jaw crushers are equipped with features which reduce the cost of maintenance to a minimum—water cooled bearings, absolute adjustments, manganese or chrome steel wearing parts.

TRAYLOR GYRATORY CRUSHERS

have many points of special merit:—the perfectly lubricated eccentric bearing completely immersed in lubricant; large, high-arch spider so constructed that it sets back of concaves allowing replacement of concaves without dismantling the crusher; countershaft bearing detachable from lower shell facilitating ease in babbitting and allowing of take-up to get full life out of gears.

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are in a class by themselves, designed and constructed to stand up under the hardest service. Frame, shafts and bearings are of extra heavy construction. Built and improved after years of experience on all kinds of rock. Their capacity will surprise you and is greater than any other type of fine crushing or recrushing machine.

Our Engineering Department will be pleased at all times to confer with parties considering the erection or remodeling of plants of any capacities or to meet unusual conditions. SEND FOR CATALOG G-2. IT WILL INTEREST YOU.

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A Firm Foundation

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You can increase YOUR sales and maintain your reputation as a Dealer in high grade materials if you stock CERESIT PRODUCTS NOW.

Write today for our Dealer's proposition

Ceresit Waterproofing Co., 924 Westminster Bldg., Chicago

PRODUCTS

CERESIT Waterproofing Compound
CERESIT Floor Hardener
CERESIT Damp-proof Plaster Bond
CERESIT Damp-proof Coating
CERESIT Stone Backing
WEATHER-WEAR Roof Coat

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Are
You
Selling
The
Best
Jobs?



Lincoln High School, Los Angeles, Cal.
Tiger Brand Used Throughout for White Coating.

One of the materials which is always in demand for high grade building work is



TIGER BRAND HYDRATED LIME

This building way out on the Pacific coast is white coat plastered throughout with Tiger Brand Hydrated Lime shipped from Ohio.

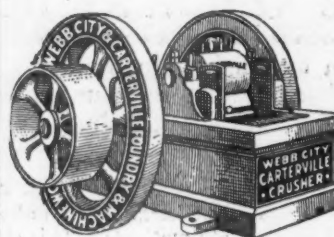
Tons of it are sold for white coating in Los Angeles and other Western cities because no other material gives the same satisfaction.

It will sell just as well and give just as good satisfaction in your territory.

The Kelley Island Lime & Transport Co.
CLEVELAND, OHIO

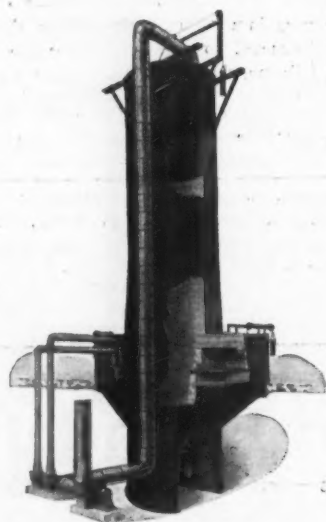
A Comparison of costs is always valuable

Why not write us
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economical features
of the Blake Type
Crusher?



**Webb City and
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WEBB CITY, MO.

Doherty-Eldred Lime Kiln



The Improved Equipment Co.
COMBUSTION ENGINEERS

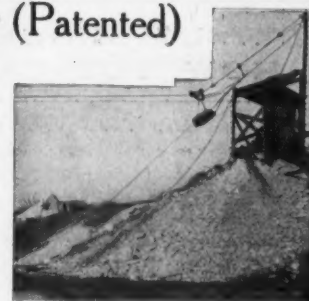
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Complete Coal Gas Plants
Complete Lime Burning Plants
Gas Producers

Lime Kilns
Special Industrial Furnaces
Refractory Materials

Shearer & Mayer (Patented) Dragline Cableway Excavator

Known for its wide area of operation and efficient excavation of either wet or dry material. Machine is always under positive control of one operator.



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CHICAGO, ILLINOIS

Write us for prices on "BEAR CREEK"
brand White Lime and "WHITE BEAR"
Hydrated Lime. Prompt Shipment.

HANNIBAL LIME CO. HANNIBAL MO.

ADVERTISE

and the industry buys from you

CANCEL

and your output shrinks

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Rock Products and BUILDING MATERIALS

INCORPORATING DEALERS BUILDING MATERIAL RECORD

Volume XIV.

CHICAGO, JANUARY 7, 1915.

Number 5

PUBLISHED SEMI-MONTHLY.

DEVOTED TO

Quarry Products, Cement, Lime, Plaster, Sand and Gravel, Clay Products and Building Specialties—Fireproof Building and Road Construction.

THE FRANCIS PUBLISHING COMPANY.

EDGAR H. DEFEBAUGH, Prest.

Seventh Floor, Ellsworth Bldg., 537 So. Dearborn St., Chicago, Ill., U. S. A.
Telephone: Harrison 8086, 8087 and 8088.

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H. F. AKE, Secretary.
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Communications on subjects of interest to any branch of the industry are solicited and will be paid for if available.

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Editorial and advertising copy should reach this office at least five days preceding publication date.

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The Greatest New Year's Resolution.

A new year has dawned with all its possibilities and opportunities. The pursuit of happiness, as each of us sees it, is the principal business of this as of all other years of the past and of the future. No matter how this idea may get befogged amidst the press of engagements, the toil of undertakings and the griefs which beset the pathway of human achievement—even all of these things are concomitant parts directed to the same end. We are all builders, unconsciously writing a record of our griefs and joys, our disappointments and our achievements in the permanent structures and improvements which are monuments that we pass on to history. Not the testimony of what we write or print about ourselves will ever be considered as the whole testimony; but the sum of all the words that we bequeath to the future will be compared with the material records that have always been the principal proof of the progress of civilization which man has achieved. That is the first reason why builders have always put the date of construction upon their work, either graven upon the corner stone or displayed at cornice or nameplate. By living and working, we make history and how much happiness each year will gain in its pursuit as the principal business of mankind is left in ineffacable monuments by the structures that are an inseparable part of man's thinking and living and working.

In our own country, the records of the years of the past clearly show the temporary, unsettled, uncertain, and vacillating purpose that has actuated Americans in the pursuit of happiness. Until very recently we had no other than temporary buildings, temporary dams, temporary bridges, temporary roads and streets, temporary

structures and improvements of every character, type and kind. The record can be read more truthfully by these physical things than any description of pen or brush. We have had enough of this class of structures as well as the mental state and condition of which it is the exponent. With the newly devised uses of Portland cement and its products, together with lime, plaster, crushed rock, sand, gravel, clay products, all derived from most plentiful and hence the cheapest raw materials known to man, we have just begun to improve our physical record and stamp it with permanence, which is destined to influence the mental condition that is a major part of happiness and so tends toward a realization of the blessings of civilization that have largely been the subject of talk and nothing more for over a century.

A big majority of our readers are identified with this movement of thought and of action, but the masses of the people who make up the composite genius of 1915 are for the most part unaware of the definite progress in the direction of permanence, stability, safety and economy that we have been studying and working out during the past few years. In making our New Year's resolutions, there is none so important as that for each man to make a high resolve to consistently exert during this year of opportunity every reasonable effort to give to the greatest number of people possible the kind of information and knowledge regarding permanent materials that is well known to him because a part of his own affairs.

When the masses know the things that we know and are convinced of the permanent stability and economy of construction of every type, as we know these things to be true, then the records that we create in this and the years immediately before us will show a greater improvement in the physical monuments of our civilization for us to pass on to the future than any epoch in the history of man has yet been able to boast of.

The winter meetings of the various building supply associations are announced for the immediate future. The live and energetic dealer who means to increase his business should be on hand and take part in the deliberation, assisting to make the biggest possible number of tons yield the biggest possible returns, both for himself and for the man who produces the goods. It's a duty that every man owes to his own business.

When you study your balance sheet and look for economy you should jot down all of the mementos of lost opportunities and fumbled plays that were made which might have made a difference in the last item at the foot of the column. To prevent the recurrence of the loss of business which might have been landed means the sharpening of every man's opportunity, and it's worth while for the man with his hand on the tiller to profit by the errors of the past and so prevent a repetition of the same old thing next year.

WITH YOU and ME

G. S. Bowsted, of the Meacham & Wright Brick Co., Chicago, spent 10 days of the holiday period with relatives in Marion, Ind.

At a meeting of the joint committee on appropriations of the New Jersey legislature, which was called at Trenton, to investigate road affairs, Percy H. Wilson, secretary of the Association of American Portland Cement Manufacturers, told of the growth of the use of concrete for road work.

Wadsworth Howland & Co., Inc., of Boston, Mass., are making extensive alterations in their building at 139-141 Federal street and, as a result, will not be able to occupy this structure until about April 1. After that date a store will be retained at the present site, 84 Washington street. Charles S. Robbins, sales manager, and Clarence J. Hunt, cement coating specialist, have signified their intention of attending the coming meeting of the N. B. S. A. and the 1915 cement show at Chicago.

The Galion Iron Works and Manufacturing Co., of Galion, Ohio, reputed to be the largest manufacturers in the world of culvert pipe, road makers' machinery, contractors' and municipal supplies, has made a Christmas present of a life insurance policy to every one of its employees from the president down to the youngest employee of the firm. These policies guarantee absolutely in the event of death from any cause whatsoever to pay the salaries of such employees to their families each month for an entire year.

Samuel Cabot, Inc., manufacturing chemists of Boston, have recently distributed a post card which treats on co-operation and the coming convention of the National Builders' Supply Association, which reads as follows: "Co-operation is not merely advertising, but the personal touch between the manufacturer and the dealer. Business taken 'at a price' takes business out of the market that might have shown a profit. Why not attend the annual convention of the National Builders' Supply Association to be held Feb. 8 and 9 at Chicago, and by frank discussion and joint action with your fellow members prepare for a larger and more profitable business during the coming year?"

Charles Piez, president of the Link-Belt Co., Chicago, speaking of the conditions of business in 1914, and prospects for the new year, recently said: "What I would wish to avoid in an expression of opinion at this time would be an appearance of gloom. The fact is, however, that 1914 has not been a banner year for all manufacturers. The war depression has made itself felt. Happily enough that doesn't apply directly to us, for the year was really our second best year, according to our records. The year was not a bad one at all, therefore, in some quarters, while in other quarters, there was much to relieve the idea that the war had come to spoil business. The coming year must speak for itself, of course. I'm looking ahead hopefully and the very best sort of a year is what I'm hoping for. If I don't see as much sunshine ahead as I have in other years it isn't because I'm not looking hard. But there is some sunshine, nevertheless, if not in great quantity. I see no reason for a bad year if we handle ourselves properly."

H. H. Titsworth, of Chicago, president of the Clay Products Co., of Brazil, Ind., has offered a carload of block coal for use among the poor of Brazil.

The Howard-Cooper Corporation, Portland, Ore., general agents for the Good Roads Machinery Co., has opened offices at 549 Peyton building, Spokane, Wash.

C. B. Rogers, formerly the Cincinnati representative of the Lehigh Portland Cement Co., has removed to Chicago to join Colonel Veit's in the credit department work of the Chicago offices.

Fred Paulsen, traffic manager of the Lehigh Portland Cement Co., Allentown, Pa., spent a day in Chicago this week, making his periodical visit to the Western branches of the company.

T. L. Waldie, up to the first of the year one of the salesmen of the Kelley Island Line and Transport Co. in New York, is now traveling New England for the Palmer Lime and Cement Co.

W. W. Coney, president of the Moores-Coney Co., Cincinnati, Ohio, was in town this week conferring with President E. K. Cormack, of the National Builders' Supply Association. Ohio has not gone to the "bow wows" yet, said Mr. Coney. "We have had a pretty fair year, considering paralyzed conditions, and we are still constructing buildings, even though the tariff, war and seven or eight other things have rather curtailed business in the last six months."

D. D. Wood & Sons, Ltd., Winnipeg, Manitoba, is the name of a new concern entering the building material business in that city. Our old friend, Dan Wood, for many years has had the management of one of the principal sand concerns at Winnipeg and has been identified with the manufacture of sand-lime brick. With a view of associating his sons with him in a business connection, this new corporation has been formed. They will carry a full line of building materials and builders' supplies.

B. L. McNulty, who for several years has been located at Anniston, Ala., spent a day in Chicago, en route to the East. He stated that within the next week he will move to Mitchell, Ind., and devote his personal attention to the operation of the Mitchell Lime Co., although he will keep in close touch with the LeGarde Lime & Stone Co., where he will have associated with him in the management a practical lime man. He says that business is as good as can be expected in the Southland and there, as well as with the new hydrating plant and lime business at Mitchell, they look forward to a fair volume of business during 1915.

B. A. Williams, assistant secretary of the American Cement Plaster Co., Lawrence, Kan., while in Chicago, spoke of business conditions in 1914 and remarked that they had a fairly good year, although volume was not as large as anticipated early in the season. They have the new mill in Ohio in good trim and, with their splendid equipment, are now looking into the future with hopefulness, notwithstanding the fact that there is plenty of production in plaster in the Western states; but the splendid prices being paid for enlarged crops of grain must turn the wheel. The marketing of these products for European consumption is bound to put in the coffers of the American people many millions of dollars. Secretary J. A. Henley joined Mr. Williams on Thursday of this week.

Scheduled Meetings and Shows.

Jan. 12.—Hollow Building Tile Manufacturers' Association of America. Place of meeting not yet decided.

Jan. 12-14.—Iowa Clay Products Manufacturers' Association, Engineering Hall, Iowa State College, Ames, Ia.

Jan. 13-15.—Nebraska Retail Lumber Dealers' (Lumber and building material dealers). Annual convention, Rome hotel, Omaha, Neb.

Jan. 14, 15.—Interstate Stone Manufacturers' Association. Annual convention, Virginia Hotel, Columbus, Ohio.

Jan. 19-20.—Northwestern Clay Association, Minneapolis, Minn.

Jan. 26, 27, 1915.—Retail Lumber Dealers' Association of Indiana, Claypool hotel, Indianapolis, Ind.

Jan. 26-28.—National Association of Builders' Exchanges. Annual convention, Columbus, O.

Jan. 26-28.—Canadian National Clay Products Association. Annual convention, King Edward hotel, Toronto, Ontario.

Jan. 28, 29.—Indiana Crushed Stone Association. Date and place announced later.

Feb. 3, 4.—National Lime Manufacturers' Association. Annual meeting, New Willard Hotel, Washington, D. C.

Feb. 3-5.—Chamber of Commerce of the United States, New Willard Hotel, Washington, D. C.

Feb. 4-5.—Wisconsin Clay Manufacturers' Association, Milwaukee, Wis.

Feb. 8-9.—National Builders' Supply Association. Annual convention, Hotel Sherman, Chicago.

Feb. 8-10.—Illinois Clay Manufacturers' Association, New Leland hotel, Springfield, Ill.

Feb. 9-12.—American Concrete Institute. Eleventh annual convention, Auditorium hotel, Chicago, Ill.

Feb. 10-12.—Illinois Lumber and Builders' Supply Dealers' Association. Annual convention, Hotel Sherman, Chicago.

Feb. 10-12.—Ohio Builders' Supply Association. Annual convention, Secor Hotel, Toledo, Ohio.

Feb. 10-17.—Eighth Annual Chicago Cement Show, Coliseum, Chicago.

Feb. 15-16.—American Concrete Pipe Association, Chicago, Ill.

Feb. 15-20.—National Brick Manufacturers' Association, Statler hotel, Detroit, Mich.

Feb. 16-18.—Wisconsin Retail Lumber Dealers' Association. Annual convention, Hotel Pfister, Milwaukee, Wis.

March 2-6.—Mid-West Cement Show, Auditorium, Omaha, Neb.

March 3-5.—Mid-West Cement Users' Association, Auditorium, Omaha, Neb.

Frank Crayercroft, head of the Crayercroft-Herold Brick Co., of Fresno, Cal., who was shot a couple of weeks ago by a brick contractor named Johnson, is now reported to be out of danger.

The engagement of Miss Bessie Gegenheimer, of New Windsor, N. Y., and William Lahey, son of the late brick manufacturer of the same name, of Fishkill-on-Hudson, N. Y., who has had charge of his father's interest, is announced.

The Reinheimer Stone Co., New Paris, Ohio, are equipping their extensive rock crushing plant with electric power, which improvement will doubtless work for the increasing of their production of crushed rock at their extensive plant in Southwestern Ohio.

The Hurst Hardware Co., of Corydon, Ind., which handles a complete line of material, including rubber and galvanized roofing, concrete blocks, lime, sand, cement, plaster, brick, tiling, etc., has moved its quarters to the Applegate building. It has been doing business for 25 years.

Edward D. Boyer, cement and concrete expert of the Atlas Portland Cement Co., on Dec. 14 delivered a lecture on "The Construction and Maintenance of Cement Concrete Pavements" before the graduate students in highway engineering at Columbia University, New York City.

W. A. Fuchs, advertising manager of the Lehigh Portland Cement Co., took advantage of the holiday season to visit his home in Buffalo. He returned to Allentown, Pa., on January 4. In like manner, Zimmerman, his assistant who is stationed in the Chicago office, spent Christmas and New Year's Day with relatives in his "home town," Duncannon, Pa.

At a meeting of the building material committee of the Chicago Association of Commerce held December 23, Frank A. Mitchell, vice-president and general of the Ceresit Waterproofing Co., was elected chairman. Other members of the committee are: S. S. Jenkins, United States Gypsum Co.; Charles H. Alsip, Calumet Brick Co.; A. C. Preble, the S. H. Harris Co.; Walter S. Primley, Wisconsin Granite Co.

Raymond W. Hillis, long favorably known to the cement industry in connection with the Dexter Portland Cement Co., of Nazareth, Pa., has come back into the fold as general sales manager of that concern. For more than a year, Mr. Hillis has been engaged in other lines, but his heart was always interested in that business in which he has a wide circle of friends who will read this announcement with great pleasure.

H. M. Clemens, secretary and general manager of the Cannelton Sewer Pipe Co., Cannelton, Ind., recently said, with reference to American and foreign trade: "Our market is confined to the United States, and the bulk of our product is marketed in five states of the Central West, consequently we are not as much interested in foreign trade as manufacturers in other lines. We have had several opportunities of marketing some of our product in Cuba, but we are not on a competitive basis with Southern manufacturers who are nearer to the coast, and hence we have made no effort to establish a connection in that country. You will see at a glance that the European war will have no tendency to increase demand for our goods. On the other hand, we feel that the European war is directly responsible for a slump in our business, for the reason that the money market has been so tight and interest rate so high that municipal work is practically at a standstill, for the reason that low interest bonds do not look attractive to investors and to bond houses, and cannot be sold. We have not felt the effect of this so much up to the present, but we see every indication of a slackening of municipal work in a general way due to this

The BUILDERS' POET

PERENNIAL PROPHECIES.

I.

On January first it seems,
The air is full of rosy dreams,
Of eras of prosperity that stretch before our view;
With hopeful interviews we're fed
By every corporation head
Predicting business visions which they know are coming true.

II.

The pages of the daily press
Fill columns with their yearly guess,
In paragraphs prophetic and superlatives galore;
The business man will thus surmise
The time has come to advertise,
And reap a golden harvest never even dreamed before.

III.

The salesman has his work cut out,
Convincing customers about
The coming wave of wealth the year will bear upon its crest;
The optimist personified
Dwells happily within his hide,
Prosperity and plenty both are wrapped within his vest.

IV.

And oh, the gloomy advertiser,
That shouting, spouting, hard time geyser,
The day of doom to him is when a contract's to be signed;
He hems and haws, and fumes and frets,
He argues, hesitates and sweats,
Then sadly signs the contract in a manner half resigned.

V.

Each year our hopes are keen and strong,
We know this year will bring along
The ship we've watched and waited for to anchor at the quay;
But when the year has rolled around
We find the old tub's gone aground
Or else she's struck a floating mine and sunk beneath the sea.

VI.

If what I've said above is true,
It shows that on the point of view
Depends the status of conditions either good or bad.
Of one thing I am sure, to-wit,
There's no use worrying a bit,
The year will bring both bad and good, just as we've always had.
—Frank Adams Mitchell.

reason, and while we are quite optimistic about trade conditions in general in the year 1915, we fear that the curtailment of municipal work will have rather a depressing effect on the sewer-pipe industry. Shortage of orders for municipal work will have to be made up for by more liberal demand from the small consumers and the retail dealers. The demand from this quarter having been much smaller during the past eleven months than for a like period in 1913, this being due to short crops and a general depressed condition of the farmer and his lack of facilities for purchasing. We are, however, looking forward to the year 1915 with the hope that it will furnish as large or larger demand for our product than the year now closing, and have increased our output 30 per cent during the past four months, and we are now preparing to enlarge our power plant to better handle this increased production. We are genuine optimists, and we believe that the future holds great things in store for the American people, and that we will get our proportion of prosperity."

C. Murray, of Montreal, connected with the Stinson-Reeb Builders Supply Co., was a recent Chicago visitor.

Owen Tyler, who has been prominent in the building material field in Louisville, Ky., for years, is to be a citizen of Peru hereafter, having gone to South America, where he will be located in Lima and will be engaged in an important business enterprise, the nature of which was not divulged prior to his departure. Mr. Tyler has been prominent in the life of Louisville for a long while, having been a leading banker and politician, as well as a building material man. He was president of the old Third National Bank, and served as president of the board of aldermen for several years. He was nominated for mayor, a position held by his uncle, the late Henry Tyler, but was defeated. The business with which he was formerly connected is now operated as the Tyler Building Supply Co., with Isaac Tyler as manager.

The RETAILER

Co-operation and Welfare

By W. M. Rynertson.

[This paper was read by Mr. Rynertson, president of the Builders' Material Supply Co., at the organization of the Building Trades Division of the Kansas City Commercial Club on Nov. 10.—Editors.]

Some one wisely said that "No man liveth to himself alone." This great truth applies with special force to the building and general construction business, and it is this cause that has brought us all here tonight.

The orderly process of building development from the first conception to the final completion is usually about as follows:

First, the wide-awake real estate man sees a desirable location for a residence, store, factory, warehouse, hotel or office building; he locates the owner, gets a price—if for sale or lease—and learns also if the owner would consider improving the property, if not for sale.

Second, the next step involves securing a tenant for the improvement. There are many ways adopted to find the prospective user, advertising in the papers, displaying attractive signs on the property, word of mouth, real estate exchange, the Commercial Club and its efficient industrial commissioner, and other ways. Once the tenant is found,

The third step is usually to secure the necessary money or arrange for its production at the proper time when needed. This brings into active work the loan men, insurance and trust companies, the bond buyers, and the private lenders on improved real estate.

The fourth step is to employ the architect or engineer to prepare the plans, details, specifications and estimates of cost. These being finally satisfactorily determined,

The fifth step is to advertise for bids and award the contract to the best bidder. Notice, I do not say the lowest bidder, because the experience of 24 years in the building business has taught me one thing above all others, and that is this: The lowest bidder is not by any means SURE to be the best bidder for the owner or architect, and even for himself many times.

The sixth step is the preparing of the contract and bond to secure the proper construction and to insure the owner against loss by reason of accidents, or failure on the part of the contractor to pay his labor and material bills.

The seventh step is the purchase of building supplies and the organization of the construction forces to erect the work. This being properly done and the work completed,

The eighth and last step is the final insuring of the building and its contents, and a new day begins.

Now, all these steps, employing the real estate expert, loan, bond and mortgage men, the architect, engineer, contractor, superintendent, supply dealers and insurance brokers, both accident and fire, show the wide range of forces employed in construction work and the interdependence of one upon the other, and the necessity of coöperation for mutual welfare. Without this well organized, systematic coöperation, the promotion of building operations becomes haphazard, "hit or miss," and the best or maximum results are not obtained. Spasmodic efforts, the result of accidental impulses, cannot possibly develop along broad, intelligent far-seeing lines.

Fortunately for the community, the county, the

state or the broad tributary regions we occupy, regardless of state lines, an enlightened self-interest will lead us to develop our building activities to the greatest possible extent by the use of all the agencies mentioned.

The real estate dealer, in looking up tenants for a vacant property that ought to be improved, is working for the architect and contractor, who will follow later, as well as working for himself; and the contractor, in working for himself, is working just as hard for the community in which he lives. He is employing labor of all kinds; he is building not only buildings, but building up revenue for the



W. M. RYNERSON, PRESIDENT BUILDERS' MATERIAL SUPPLY CO., KANSAS CITY, MO.

stores, shops, doctors, lawyers, sometimes, everybody in fact, profits by his operations. The building supply men, who are in fact nothing more nor less than factory representatives on the ground, are furnishing labor for the rolling mills of Pittsburgh, the saw mills of Texas, the cement mills of Kansas and other states or the brick and tile manufacturers of our own immediate neighborhood. The transportation companies profit by his activities, and the architect's dreams are made real, largely by his work. The accident insurance hustler not only builds up his own bank account by his wonderful system of protection, but he brings peace of mind and a feeling of security to the owner and contractor. He also teaches the builder how to reduce risks to life and limb and shows the manufacturer how to preserve his men from danger in the work.

So, it is a truth so plain that "He who runs can read" that coöperation is necessary to the welfare of all allied lines and even though we may selfishly seek to avoid benefiting others, try as we may, we

cannot help but help others; and the more we give the more we receive.

It is of course obvious that the greatest good in the building business to all can only come through the earnest, anxious, sincere desire and hard work of all. We must have your best thoughts and most energetic work. Mr. "Real Estate," you must never rest as long as that valuable corner lays bare and idle. It is a disgrace to the owner and the city and a sad comment on your activity that it should lay idle so long, and if you find the tenant and cannot find the money with which to improve the property, then it is up to the loan, trust or insurance companies to do their part; if they are not in position to finance the operation, then it devolves upon all who are vitally interested in building development to organize if possible some strong, central financial power that can readily handle first-class building bonds and help our owners, architects and contractors to make every well founded and justifiable improvement.

Upon the architect, engineer, contractor and supply dealer devolves the duty of advising the general public—"the owners"—of conditions governing the industry from time to time. If, by reason of peculiar conditions existing today, materials are much cheaper than ordinarily, and labor far more efficient than in time of labor scarcity; if, because of these conditions buildings can be erected at a saving of say 20 per cent to 25 per cent, then is it not our duty to the public, as much as to ourselves, to let these facts become known, and if we fail to do so, have we not failed as good citizens to help our town when labor needs employment, not pauperizing? To be specific, and get down to "brass tacks," can any sane man seriously contend or even have a doubt that these United States are on the eve of a tremendous, industrial revival? Even though we should never get control of the larger part of the export business of South America, which is fairly thrust upon us; even though we turn our backs upon China, Japan and India, and refuse utterly to do business with them, yet the things which we must have ourselves that we have hereto bought from the warring countries and which we will have to make now or do without, these manufactured products alone will keep us all busy as bees for the next decade.

Factories must be built, storehouses, power plants, waterworks, all kinds of buildings, and all these factory centers must have homes for workmen, offices for managers and sales forces, sewers, street railways, etc.

Steam railways must increase their trackage, and we must help them to do so by giving them fair and reasonable increases in rates in order that they may earn satisfactory returns so that capital will come to them instead of turning away. There is such a thing as dosing a sick man to death. Let us reform, not ruin; let us construct, not destroy; let us go forward once more, not backward.

While unhappy Europe is engaged in a "titanic" campaign of destruction, let America engage in an "Olympic" campaign of construction. Do we quite realize what it means when our exports, even without cotton, broke all records last month, and our imports were the smallest in a generation?

Abraham Lincoln once said: "If we buy a ton of steel rails in England for \$40.00, we have the rails, but they have the \$40.00; but if buy a ton

(Continued on page 20.)

Office Arrangement of Vital Importance

The days when the retailer of builders' supplies needed but to hang his shingle out in front of any old shack, regardless of the exterior or interior appearance, are now past and experiences of the trade during that period are now considered and termed "ancient history."

The modern retailer finds it necessary to properly equip and maintain an office in a manner which will not only satisfy the trade that the firm is a live one with which to do business, but the necessary equipment of an office should be arranged in such a manner as will at once please and entice the trade to its quarters.

A debatable question which arises whenever a builders' supply dealer sees fit to make a change in his sales quarters is the proper location of exhibits of building materials—especially brick—and their location to the business office.

The manner in which this question was solved in the office of the Nebraska Material Co. at Lincoln, Neb., is interesting. Panels of brick have been constructed in interesting designs, and placed the entire length of one wall of the long single office of this establishment. Directly opposite the brick exhibits are a number of show cases, neatly arranged and finished in such a manner as to permit the largest amount of light within. In these show cases are to be found samples of practically every material handled by this building supply house. Between the show cases and the wall is a space in which the sales force makes its home when not on the street. Here are to be found desks, telephones and such other paraphernalia as is required by a good sales department. The main aisle of the outer office is constructed of tile which this company is advocating for the very use to which it is put in this instance. To the rear of the sales office are to be found headquarters for the executive and bookkeeping departments.

The building in which the offices of the Nebraska Material Co. are located is one which was recently constructed by this company of fireproof materials and measures 50 by 142 feet. One-half of the first floor is occupied by the offices and sales room of the supply house and the other half is rented to the W. L. Huffmann Co. and used by them as an automobile salesroom.

J. H. Allen, secretary and general manager of the Nebraska Material Co., who was a big factor in arranging the floor plans of this building, is socially inclined and hence the reason for making the upper floor of this building into a "party-house." The main dance hall of this floor is 48 by 91 feet in the clear, with a 17-foot ceiling. The musicians' balcony opens from the mezzanine floor. In addition to this there is a reception hall, 24 by 48 feet; a fully equipped kitchen and a ladies' dressing room on the main floor. On the mezzanine floor is to be found another ladies' dressing room and toilet, men's dressing room, toilet and smoking room.

According to I. J. Weatherford, sales manager of the Nebraska Material Co., this is the "most complete party-house in the West, not even excepting Chicago. The acoustics in the dance hall are so perfect that a victrola could very easily furnish music to dance by. The only trouble the orchestra had when they first began to play in the new hall was too loud playing; the people on the floor could not distinguish what pieces were being played. The musicians claim that it is the best hall they have ever played in."

The Nebraska Material Co., which is well and favorably known as one of the largest houses in the West, has a personnel of hustlers as follows: E. R. Bee, Fairbury, Neb., president; J. G. Ray, Lincoln, Neb., vice president; Charles Klose, Lincoln, Neb., treasurer; J. H. Allen, Lincoln, Neb.,

secretary and general manager. The directors include the above named officers and A. B. Talbot, Lincoln, Neb., head council M. W. A.; Morris Friend, Lincoln, Neb., capitalist; T. S. Allen, Lincoln, Neb., attorney.

The force of this company consists of four salesmen and six clerks with C. A. Gates as manager of the marble tile department.

The Nebraska Material Co. handle a complete line of builders' supplies and represent a large number of the more prominent manufacturers.

Westchester County Association Elects.

The annual meeting of the Building Material Men's Association of Westchester County, N. Y., took place at White Plains last month, with a representative attendance present. The following officers and trustees were elected for the ensuing year, the personnel being the same as last year, with the exception of George Kapp, of Kapp & Nordholm Co., Mount Vernon, in place of C. G. Roake, of J. J. Roake & Sons, Yorktown Heights. The list is as follows:

Officers—John F. Dinkel, president, Tarrytown; J. A. Mahlstedt, vice-president, New Rochelle; Robert Haviland, treasurer, Chappaqua; Tracy Cowen, secretary, White Plains.

Trustees—F. M. Dain, Peekskill; A. F. Hitchcock, Mount Vernon; E. N. Leete, Mount Kisco; George Kapp, Mount Vernon; Abram H. Slater, Port Chester; E. M. Yerks, Yonkers.

The committee on the annual dinner, composed of J. A. Mahlstedt and Alonzo Guest, of New Rochelle, and E. M. Yerks, of Yonkers, reported, through Mr. Yerks, that the committee had decided on Tuesday, Jan. 26, as the date for the annual dinner of the association, and they chose the Manhattan Hotel again for the festivities. The dinner will be served at 7 p. m. sharp, preceded by an hour's reception. The association will have as its guests on this occasion officials of sister organizations and prominent speakers.

Material Men Fraternize.

New York, Jan. 6.—Just as ROCK PRODUCTS AND BUILDING MATERIALS goes to press the Building Material Exchange in New York is giving the biggest spread of its life. There are about 1,000 handlers of material contracts of one sort or another singing "It's a Long Way to Tipperary" and other ditties of the hour in the grand ballroom of the Hotel McAlpin, with the stately Senator John B. Rose, of the Greater New York Brick Co., trying his best to look over the "six foot six" of A. Wilfred Tuthill, red brick sales manager for the ancient and honorable firm of Sayre & Fisher Co., of Sayreville, N. J., Gotham, N. Y., and River street, Newark, and "Billie" Morton, Lord High treasurer, and C. J. Curtin, who brings the shekels into the coffers of the New York office of the Farnham Cheshire Lime Co., casting up their accounts in an honest effort to convert the coin of the realm into honest-to-goodness fraternity.

Up there in the gilded domain where royalty hobnobs when it is not engaged in the great European outdoor sport of howitzing each other there is a Southern troop of melody makers and a vaudeville team or two that is designed to take the last possible bit of remorse out of the expenditure of five perfectly good American bones to shake hands with a business competitor and tell him how sorry he is that the other fellow did not get that big contract both were after.

The committee selected Jan. 7, perhaps because of the luck that usually goes with the perfect number, but it overlooked the fact that in this day of telegraph tolls and long distant phone calls the printer still has to be figured with. At any rate, it was "some dinner," "some crowd," and a "big success." That much could easily have been gathered from the fact that Senator Rose alone took \$250 worth of tickets, thus guaranteeing payment for the opening cocktails at least, and that William Morton was at the end where enthusiasm counts for the most.

The Building Material Exchange of New York recently spread out. It gathered unto its wings the whole territory of the metropolitan district. It is an institution that is growing with the city, but more important than that, it is taking the "I-O-U" out of judicious business.



ATTRACTIVE ARRANGEMENT OF SALES OFFICE AND BRICK DISPLAY OF NEBRASKA MATERIAL CO., LINCOLN, NEB.

S-a-f-e Society Meets With Success

Work of Society Advocating Fire Elimination Shows Results in Cleveland — Receives Approval of Trade in Other Cities.

An organization, whose mission it is to not only advocate the prevention but also the elimination of fire, was conceived in the fertile brains of Cleveland building material men and brought into existence about six months ago under the name of the Society Advocating Fire Elimination. As the secretary terms



H. H. CAMP, PRESIDENT, S-A-F-E.

it, the society was organized to "test out a theory, namely, that safe building formed the missing link in the chain of fire elimination."

In a short space of time this theory has been proven sound. The "S-A-F-E" is a success. Its work has extended almost of itself to national scope; and its members now represent virtually all parts of the country.

Those identified with the manufacture and sale of permanent materials declare the "SAFE" movement is as meritorious as that of 'Good Roads.' Already its gospel has been taken up in many cities, represented through its membership, and is being preached through newspapers and by word of mouth in the interest of extension of fire limits and safe building construction.

The "S-A-F-E" stands unprecedented in its having united in its membership all the varied interests represented in non-burnable structural material. Already there are pledged to its support manufacturers and dealers in common and face brick, construction tile, tile roofing, asbestos and asphaltum roofing, gypsum products, steel reinforcing and metal lath, insurance men, builders' supply houses, architects, contractors, engineers, safety appliance makers; in fact, every element of fireproof building and those interested in fire elimination. Among its distinguished honorary members is Ex-Chief Croker of the New York fire department.

Its strongest appeal is its freedom from commercialism. It has nothing to sell. All that it represents is typified in its name "S-A-F-E."

Where this society entirely differs from its predecessors in the field of fire prevention is that it goes directly after the prospective builder of homes or business structures. It endeavors to lay before him, in such plain terms that they cannot be misunderstood or doubted, the fact that a safe building is of necessity a permanent building and, while costing a few hundred dollars more in the initial expenditure, is a better investment in one year or in 50 years, instead of, as is the case where frame construction is used, starting on the road to deterioration the moment that last nail is driven.

The fathers-in-law of the Society Advocating Fire

Elimination and those whose liberality insured it are: E. W. Farr, president, Farr Brick Co.; Wm. A. Fay, president, Cuyahoga Builders' Supply Co.; H. H. Camp, president, Camp Conduit Co.; W. T. Rossiter, general manager, Cleveland Builders' Supply Co.; R. J. Dawson, secretary-treasurer, Cuyahoga Brick & Shale Co.; H. S. Burgess, general manager, Cleveland Brick Sales Co. Of these directors Henry H. Camp is president; William A. Fay, vice-president, and W. T. Rossiter, treasurer.

Record of the organization would not be complete, however, unless there was added to those already mentioned the name of R. C. Mitchell. As sales manager of the Farr Brick Co. he was one of those who developed the original "hunch" of safe building, which grew into the Society Advocating Fire Elimination. His efforts have done wonders to increase its membership and its meetings have benefited by his counsel. The society is particularly fortunate in having as its secretary Ralph P. Stoddard, formerly of the Cleveland Leader, for which he conducted the first "builders'" page—a journalistic stunt which has been copied all over the country. The famous advertising campaign of the Cleveland Face Brick Association was from his pen. Trained thus especially for the work in hand, he has made wonderful progress in spreading the gospel of safe building. About 100 newspapers are using his publicity and many trade magazines as well appreciate its news value regardless of its propaganda.

The society's growth has been exceptional. It now has close to 100 members, located in all parts of the country. Its plan for local chapters is maturing; negotiations being under way for branch bodies in Pittsburgh, Chicago, Columbus and Cincinnati. With these as a nucleus it plans a chain of local bodies to cover the entire country.

What its members point to as infallible proof of its merit is the activities of the lumbermen against it. Virtually every manufacturer and dealer in lumber of any consequence in this country has been written to and urged to co-operate in an effort to counteract the effects of its propaganda.



W. T. ROSSITER, TREASURER, S-A-F-E.

To sum up, those concerned with the question of fire elimination and prevention, as well as those who view the matter from a disinterested standpoint, claim for the "S-A-F-E" that it will prove to be the Good Roads movement all over again, as applied to building construction, instead of highways.

Locates Yard Advantageously.

The Fischer Building Supply Co. has recently opened a yard at Green Bay avenue, where they claim that their location is such that while selling the building contractors of the city they can also advantageously supply the country trade by team and at the yard. This firm is at present handling the more staple lines of supplies, such as lime, plaster, cement, drain tile and other clay products, but hope in the near future to add materially to their



W. A. FAY, VICE PRESIDENT, S-A-F-E.

present line. The firm has been incorporated with a capital stock of \$10,000, and its personnel consists of men who have been identified with the lumber and material interests of Milwaukee for some time. A. C. Fischer, president, has been associated with the Steinman Lumber Co. for the last 32 years as secretary and stockholder. A. Salsman, vice-president, is also connected with the Steinman Lumber Co. Walter C. and Alfred A. Fischer, who are treasurer and secretary, respectively, are sons of A. C. Fischer and the active members of the firm. Having been employed by one of the retail dealers in Milwaukee for the past six years, Walter C. Fischer has acquired a wide acquaintance among the building contractors. Alfred A. Fischer has held various clerical positions with local concerns.

Ricketson & Swartz, brick dealers of Milwaukee, report that 1914 has been the best year they have experienced in the past three decades. Mr. Powell, speaking for the company, explained this condition by saying, "While the quantity of the average sized orders has fallen off, we have had a few large orders and these have helped out materially."

UNIFORM CONTRACTS NOW A POSSIBILITY.

Louisville, Ky., Jan. 5.—The uniform contract movement, which was originated by the Louisville Builders' Exchange and which was recently adopted by the American Institute of Architects, is expected to work a general reform in future building operations. At a joint conference between the architects' committee and a committee of National Builders' Exchanges in Philadelphia in September, uniform contracts and plans were adopted for recommendation to both the national bodies of architects and contractors. It is expected that the approval of the American Institute of Architects will be followed by a similar action on the part of the National Association of Builders' Exchanges which meets in Columbus in January. H. L. Lewman, of Louisville, a member of the local exchange, is also president of the national body and is strongly in favor of the proposed uniform contract.

Calendars and Holiday Greetings.

Manufacturers and retailers of building materials have remembered the trade to which they cater with attractive calendars as well as beautiful and neatly engraved holiday cards.

One of the most unique calendars received was from the Universal Portland Cement Co. It measures 20 by 21 inches and has been attractively printed in colors, a different color being used for each month. Enough space has been reserved above the calendar tables to permit the printing of terse but practical arguments in favor of concrete construction. A different argument is presented each month under the following headings: "Fireproof Construction," "Eighth Chicago Cement Show," "Bulk Cement," "Concrete on the Farm," "Concrete for the Home and Garden," "Concrete Roads," "Sanitary Construction," "Concrete in Architecture," "Good Concrete," "The Economy of Concrete," "Concreting in Cold Weather," "Concrete Factories." On each page of this calendar is to be found the slogan "Concrete for Permanence." The last page contains a complete calendar for 1914, 1915 and 1916.

The American Keen Cement Co., of Sigurd, Utah, distributed a beautifully lithographed calendar measuring 20 by 31 inches on which is reproduced in colors Dobson's famous painting, entitled "His First Pair." A beautiful border of oak leaves and acorns surrounds the picture and calendar pad.

The Lehigh Portland Cement Co. supplied the trade with an attractive olive green calendar, 16 by 29 inches. Four pictures centered around the Lehigh label show the advantages of using cement in the construction of bridges, roads, silos, piers, grain elevators, skyscrapers and other buildings. "Lehigh—Dependable for Every Use" are the prominent words on the calendar.

A novel little calendar, four by eight inches, specially designed and embossed, was distributed by the Chicago Portland Cement Co., and contained New Year's greetings. One of the features of the calendar was the embossed name of the recipient to whom New Year's greetings were extended in a few lines of poetry specially written for the occasion.

The attractive manner in which the U. S. Gypsum Co. extended greetings to the trade in their two color advertisement in the previous issue of ROCK PRODUCTS AND BUILDING MATERIALS was favorably and enthusiastically commented upon by retailers in all parts of the country. The co-operative spirit of this company was exemplified by the printed words of good wishes.

Among the retailers to distribute calendars are the James B. Goff Co., as mentioned in the last issue of Rock Products and Building Materials, and the Jewett Lumber Co., of Des Moines, Iowa. The latter firm used a novel way in distributing their calendars. New Year's greetings were sent out under date of Dec. 31 and, in addition to thanking the trade for past patronage, the communication stated that a beautiful calendar, with a reproduction of Edwin Lamasure's "The Swimming Hole," was awaiting them at the office. A request that they either call or send an order for same brought a good many of the customers to the office where additional New Year greetings were extended.

Fritz Jahnke, Inc. of New Orleans, remembered the trade with an attractively engraved card, on which they wished their friends even more than their full measure of prosperity and happiness during 1915 and that they might have some share in making their wish come true.

The trade supplied by the Union Lime & Cement Co., of Louisville, was pleased to receive the January issue of this company's "Monthly Bulletin," which was artistically printed in red and green. The front cover contained the season's greetings.

The United Fuel and Supply Co., of Detroit, Mich., remembered their customers and friends with telephone pads and holders.

James L. Shearer, of Goldfield, Iowa, sends their cheerful message:

"A good New Year to one and all

And many may we see.

And during all the years to come

Oh, happy may they be."

The B. F. Goodrich Co., Akron, Ohio, sends greetings to readers of ROCK PRODUCTS AND BUILDING MATERIALS in the following words:

"We are wishing you a pleasant journey through the coming year—

A journey that shall not be marred by skidding—

A journey in which there may be few rough spots—

A journey in which you may have 'Safety First,' last and all the way—

A journey which may enable you to 'See America First' in the galaxy of nations—

First in prosperity, first in peace, and first in honor—

A journey that shall bring you all the comfort,



R. P. STODDARD, SECRETARY, S.A.F.E.

all the safety and all the steady going that accompany Goodrich tires—

A journey during which every day may be a continuous round of pleasure—

Just as each Goodrich tire is.

And may all your ventures prove to be for the best in the long run."

CEMENT RATES IN CENTRAL WEST.

The Interstate Commerce Commission, by its order No. 2831, referring to cement rates between points in Illinois to points in Minnesota and other states, decided on Dec. 2, 1914, as follows:

"Advances of approximately two cents per 100 pounds on cement from the principal cement producing points west of the Mississippi river in trunk line territory are sustained in part by the commission. The proposed increased rates on cement in carloads from Chicago, Ill., and certain other points to St. Paul and Minneapolis, Minn., and to points in Wisconsin, found to have been justified. The increased rates on cement in carloads from Mason City and Des Moines, Iowa, to St. Paul and Minneapolis, found to have been justified in part only. Increased rates on cement in carloads from Iola and related points in the state of Kansas to St. Paul and Minneapolis were found not to have been justified. Increased rates on cement in carloads from Mankato, Minn., to Chicago, found to be justified and orders were issued accordingly."

Death of George C. Walters.

We received the sad news just about the Christmastide of the death of George C. Walters, at his home in Atlanta, Ga., on Saturday, Dec. 19.

Mr. Walters was the founder and editor of the "Concrete Age," published at Atlanta, and was widely known and loved by the members of our industry throughout the country. During the recent Road Congress at Atlanta, George was one of the most active leaders of the local contingent to entertain the visitors; he was a charming host, as he was in so many ways, for he was a true Southern gentleman, and was a writer of some distinction, was a mold of public opinion.

Like everything that such a man would undertake, he met with a recognized measure of success; the industry has never had enough men of his calibre. Associated with Mr. Walters, was his brother, J. Drury Walters, who will continue the publication with which he has been identified for a number of years.

At the Atlanta convention, George C. Walters told one or two of his closest friends that he would be in Chicago at the coming cement show if he was anywhere, referring to the protracted period of bad health through which he had been going for a long time; but his cheerful and cordial disposition overshadowed this statement of his and the announcement of his death came none the less with that sting and surprise which the "Grim Reaper" always imparts to us humans. Peace be to his ashes.

New Rate Scales on File.

Washington, D. C., Jan. 5.—Scales of rates to be used in making the general increase of 5 per cent in class rates recently granted the eastern railroads by the Interstate Commerce Commission have been submitted to the commission by C. C. McCain, chairman of the Trunk Line Association committee.

To points intermediate between New York and Chicago, taking 71 per cent and higher of the New York-Chicago class rates, the new tariffs will become effective on January 15, and to points taking a lower percentage of the rates they will become effective February 1.

The first class rates between New York and Chicago will be 78.8 cents a hundred pounds, and the other five classes will be graded proportionately lower.

How Charges Will Stand.

From New York to points taking 60 per cent of the rates the charges on the various classes per hundred pounds will be as follows: First class, 47.3 cents; second, 41; third, 31.5; fourth, 22.1; fifth, 18.9; and sixth, 15.8. To the same destinations the rates from Philadelphia will be 6 cents a hundred pounds lower on first class traffic and about the same amount lower on other classes, and from Baltimore about 2 cents lower than the Philadelphia rates. From Boston the rates will be 5 cents a hundred higher than from New York, while from Albany, N. Y., they will be the same as from Philadelphia. From Syracuse and Rochester, N. Y., they will be 3.5 cents below the Philadelphia and Albany rates.

Rates Into Canada.

To Canadian destinations the first class rate from New York will range from 59.9 cents to 78.8 cents a hundred pounds, and it will be the same from Philadelphia and Baltimore. From Albany to Canadian points the first class rate will range from 44.1 cents to 63 cents; and from Syracuse and Rochester from 41.9 to 55.2 cents. The tariffs provide that from New York to all Canadian points via People's Line steamers and rail via Rouse's Point, N. Y., not less than standard all-rail rates shall apply.

NEWS of the TRADE

The National Situation.

Estimated value of projected building operations throughout the country in 1914 totaled \$763,179,925. This was 8.8 per cent below the total of \$839,000,000 for 150 cities as reported to Bradstreet's and the "Record and Guide" in 1913. Fifty per cent failed to go ahead. The classification of construction by quarters follows:

	1914.	1913.	Change
			Percent.
January, 146 cities....	\$ 45,999,862	\$ 55,514,496	D. 17.1
February, 148 cities....	51,376,112	62,784,999	D. 18.1
March, 150 cities....	85,610,997	83,388,638	I. 2.6
Total, 1st quarter.....	\$181,986,971	\$201,688,616	D. 9.7
April, 150 cities....	\$ 83,364,426	\$ 97,405,999	D. 14.4
May, 146 cities....	82,761,751	86,809,693	D. 4.6
June, 150 cities....	85,532,913	82,999,953	I. 3.0
Total, 2d quarter.....	\$251,659,090	\$267,215,847	D. 5.8
Total, 6 mos.....	433,646,061	468,904,463	D. 7.5
July, 152 cities....	\$ 82,857,507	\$ 78,786,703	I. 5.1
August, 152 cities....	62,976,175	65,703,443	D. 4.6
September, 153 cities....	53,356,994	79,730,232	D. 33.0
Total, 3d quarter.....	\$199,190,676	\$224,220,378	D. 11.1
Total, 9 mos.....	632,836,737	693,124,841	D. 8.7
October, 152 cities....	\$ 52,212,491	\$ 66,141,492	D. 21.0
November, 133 cities....	40,130,697	46,519,729	D. 13.7
December, 130 cities....	38,000,000	33,711,855	D. 11.2
Total, 4th quarter.....	\$130,343,188	\$146,873,076	D. 11.2
Total, 12 mos.....	\$763,179,925	\$839,997,917	D. 8.8

It will be noted that during the last quarter the percentage of decrease has gradually shrunk. In October it was 21 per cent. In November the percentage decreased to 13.7 and in December it had cut as low as 11.2. Reflecting this gradual improvement in building construction, the drop in prices has been least precipitous. The trend, while still downward, has been checked, indicating that building material commodities throughout the country reflect to some degree the apparently impending change that is about to come over the national market.

Immigration affecting the labor market was sharply downward during the first quarter when government statistics were available. Since that time it is to be presumed that this tendency has been much sharper in its decline, owing to the exodus of alien reservists to belligerent countries. The index in building, however, apparently has reached its low ebb, the lowest record in the country since 1901. Banking resources during the period of most acute depression in August were not quite as low as it was in October, 1907, when there was a financial panic, although it was considerably lower than during the banking crisis of 1903.

The year closes with banking resources of the United States safely above normal and bordering upon a state of activity, as far as the business index is concerned and places the banking index in the classification of plentiful reserves for the new Federal reserve bank law may be given due credit.

Construction interests have practically been the victims of a period of reaction lasting approximately six years. Following the 1907 panic there was a sharp recovery in banking resources. Prices of materials dropped from high altitudes which prevailed two years prior to that time, until money reached its highest level in November, 1908. From that time down to the middle of 1910 there was reaction due probably to a strenuous political campaign followed by two years of moderate business until the fall back in 1913 to a state of depression. The year 1914 gave promise of developing a lead equal to that of 1908. It had already reached a level in July within 30 per cent of the 1908 pin-

nacle when the European war broke out and cast the country into an unprecedented crisis and took away from us much of our cheap labor. Mills began to close and output was restricted. History afforded no guidance and this country was thrown upon its own resources to work its way out of an enigma that never before had confronted it.

While the depression was at its height this country for the first time in history was conducting its affairs without the medium of a security exchange and without any basis of valuation for securities, save those for government bonds. And yet the depression did not reach the low levels of the short but excruciating panic of 1907. Conditions are now ripe for a change for the better. Lake copper electric and pig iron and tin may be expected to be the first contributing factors in the building materials to lead the way to more prosperous conditions.

In basic materials such as brick, steel, cement, lime and gypsum products the demand for building construction will be the potent influence for or against higher prices, but from an analysis of quotations prevailing throughout the country covering the last 20 years and depending upon the regularity of recurrent cycles of prosperity and depression this country is due for a gradual recovery.

Banking interests do not look for any immediate change and are cautioning their clients against expecting boom conditions. The best advice is that there will be a brief recovery between now and July. A reaction may be expected during the summer months with a sharp rise of all building commodities, excluding lumber, but including stocks and other securities in September, which will be carried to exceptional limits of prosperity up to the fall of 1916.

Pittsburgh Has Good Year.

Pittsburgh, Jan. 6.—Dealers in builders' supplies were considerably surprised following the annual report of building operations in this city which was issued for 1914. It showed that last year the total of building operations in Pittsburgh was larger than it had been for any single year since 1905. This was due in large part to the many very large structures put up in the downtown district. The prospects are that this report may be duplicated in 1915.

Retailers have been very busy the past two weeks taking inventory. This shows that their stocks are by no means large in most lines. There is, perhaps, a larger stock of brick in the Pittsburgh district than any other lines of builders' supplies. Cement stocks, as a rule, are low. Lumber stocks are very much reduced. Sewer pipe is plentiful at some yards, but other lines have been cut down by the very prudent buying of the past year. It looks as if retailers would be pretty good buyers within a very short time. The prospect for contracts coming forward early is good. The bond situation has improved greatly and dozens of towns and boroughs which were unable to sell their bonds early in the fall are now disposing of them. As fast as this is done bids are being taken and contracts are being let for jobs, which will require a large amount of road and bridge material, as well as building materials for public buildings.

Memphis Dealers Hopeful.

Memphis, Tenn., Jan. 5.—The Union Sand and Material Co. report outlook fair for early spring trade. Business has been dull recently. The Mississippi river is very low at this point now, but sand yards have liberal stocks and boat movements are satisfactory. River sand is selling at around \$1.00 a yard and gravel at \$1.25 a yard.

The Knights of Columbus, of Memphis, have purchased a site on which to erect a permanent home this year. The B. P. O. Elks, of Union City, Tenn., have purchased a site adjoining the Grisson building on which they will erect a home and clubhouse.

Dan C. Newton, city building inspector of Memphis, is optimistic over the spring outlook in this city.

J. C. Lovelace, of John A. Denie's Sons Co., supply dealers, with warehouse on the Southern Railroad and main store on South Front street, states that while the closing part of 1914 was dull, he thinks business will shortly begin to improve and with good weather and the general loosening up in trade, everybody will be busy. He is not so sure that the market will be satisfactory.

Quinn Province, city salesman for John A. Denie's Sons Co., Memphis, Tenn., spent the holidays at Paris, Tenn.

Frank Wheeler, with T. L. Herbert and Sons, Nashville, Tenn., has returned from Island Grove, Fla., where he spent a three weeks' vacation.

The Dixie Portland Cement Co., James building, Chattanooga, Tenn., with a plant at Richard City, Tenn., look for a large activity in the Southeast when the open weather comes. They are quite busy now at their plant.

Secretary Kennedy, of the Memphis Building Material Men's Club, is back at his post of duty after an illness of several weeks. A register for guests and a permanent exhibit of building material products is kept here.

Kansas City Market Quiet.

Kansas City, Jan. 5.—Building operations in Kansas City generally speaking are at a standstill, as they have been for the past month. However, most of the architects report a fair volume of business in their offices and the contractors are for the first time in months commencing to carry a bright smile around with them. It is thought by parties in touch with the situation that business will be resumed very shortly. General business conditions have shown a decided change for the better during the past two weeks.

"The building business is the last business to feel an improvement and it is the last business to give up when things commence to get dull," said one prominent contractor, "naturally we can not expect much business in the building line until other trade picks up."

At the present time "other trade" is picking up rapidly, so Kansas City can look forward to a very prosperous year as far as the builder is concerned. There are several large buildings proposed at the present time, some in the main part of the city as well as many large, fine homes in the residential sections of the city. Some of these homes are under construction and others will be started as soon as the weather permits.

Chicago's 1914 Season.

Building in Chicago in 1914 was active, notwithstanding there were many setbacks during the year. In the early part of the year when things were beginning to look pretty good the brick strike interfered and upset expectations for several months. Then, just as conditions were beginning to improve following the ending of the brick strike the European war broke out and, with general financial and business conditions depressed, its effect was seen in the temporarily slowing-up of operations. There were issued 9,963 permits for the year covering a total frontage of 290,422 feet and involving an aggregate estimated cost of \$82,947,601, as compared to 10,891 permits, a frontage of 321,002 feet and a cost of \$89,394,150 in 1913, a decrease of 928 buildings, 30,580 feet frontage and \$6,446,549 in cost. This is not, however, much of a falling off when the facts are taken into consideration. During the first quarter of the year 2,148 permits, involving an aggregate cost of \$17,993,350, as compared to 1,908 buildings at a cost of \$19,260,600, a gain of 240 buildings, and a loss of \$1,267,250 in cost. In the second quarter there were issued 2,931 permits, aggregating in cost \$25,922,850, as compared to 3,669 buildings and \$28,628,100, a decrease of 738 buildings and \$2,705,250. There were 2,570 permits issued during the third quarter for buildings and involving \$19,844,110, as against 2,794 buildings and \$19,766,000, a loss of 224 buildings and a gain of \$78,110 in cost for the 1914 quarter. During the last quarter of the year there were 2,314 buildings, costing \$19,187,350, as compared to 2,520 buildings and \$21,739,450, a decrease in the 1914 quarter of 206 buildings and \$2,522,100 in cost.

Corporation Counsel Beckwith and Ald. Healey and Littler of Chicago are in Washington and propose to call on members of the house rivers and harbors committee to ask an amendment to the appropriation bill making the appropriation for Chicago harbor a continuing one. They contend that in letting the contract they would be able to get lower bids if the bidders find that the work is sure to continue from year to year until completed.

A review of the value of Chicago manufactures for 1914, compiled by the Chicago "Tribune," shows that the 1914 value of brick was \$7,963,000, as compared with \$9,250,000 for 1913. Stone, lime and cement are listed with a 1914 value of \$20,520,000 and \$22,800,000 for 1913. Losses are shown in both instances.

New York Brick Market.

New York, Jan. 2.—New price lists feature the common brick market at the opening of the year. The quotations tend higher. Common Hudsons which brought \$5 to \$5.25 at the first of December and now quoted at \$5 to —, which means that the best brick is being held for prices above the high level prevailing a month ago.

Concerns like the Empire Brick and Supply Co., the Greater New York Brick Co. and others who have some covered brick at the West Fifty-second street docks are not making quotations on them at present. They say it is too early to give a price, that they prefer to wait a little while longer to see what the market will develop. In other words they will not let them go out at \$6 or under, which is all an extremely dull December developed. If cold weather which featured the latter end of the last month of the old year continues and navigation remains closed there is reason to believe that there will be at last a 50 cent advance in the quotation on covered brick. There were only 14,000,000 common Hudson brick unsold on the wholesale docks at the close of the year, as against 113 barge loads or 39,000,000 carried over from 1913 to 1914. The price of this brick on Jan. 1, 1914, was \$5.50 to \$6. At the first of this year the price was 50 cents to a dollar a thousand weaker.

Louisville Shows Gain in 1914.

Louisville, Ky., Jan. 5.—Business prospects are regarded by material men as good, for though this is the dull season, the outlook is for work in the building line to be taken up aggressively early in the spring. Building operations in Louisville in 1914 were larger than in 1913, so that, everything considered, the dealers evidently had a better year than it appeared to be at some stages of the game. With general business improving and with money easier as the result of the operation of the Federal reserve system, it seems certain that the volume of work in 1915 will be much greater.

The total amount of building in 1914 was \$4,458,000, a gain of \$400,000 compared with the preceding year. One of the reasons for the increase was the fact that the larger part of \$1,000,000, the proceeds of a school bond issue, was laid out for new buildings during the year. In addition, the suburban territory around Louisville, much of which is not in the city limits, has been developing rapidly, and if the work done there were included, the increase would have been far greater.

H. P. Caldwell, sales manager of the Ohio River Sand Company, has been elected a member of the Louisville Rotary Club. Mr. Caldwell will be the spokesman for the sand business and other building material interests. The company had been operating until ice in the Ohio river made it impossible to do much with the boats. Little sand is moving at present, of course, but the outlook is good.

Panama Canal Traffic.

During the first three months of commercial operation of the canal, from Aug. 15 to Nov. 15, 1914, the cargo transported through the Panama Canal has amounted to 1,079,521 tons, according to the "Canal Record."

During the fiscal year ending June 30, 1914, the Panama Railroad carried 643,178 tons of through freight between the two seaboard, and in the preceding fiscal year, 549,040 tons. From this it is seen that between six and seven times as much cargo is passing over the Isthmus now as passed over this route when goods were transhipped by rail. The traffic through the canal in the first quarter year of its operation has been equal to about 88 per cent of the through traffic over the Isthmus during the preceding two years.

The toll charge on loaded vessels of \$1.20 per net ton, canal measurement, has been found in this period to be equivalent to a charge of approximately 75 cents on each ton of cargo. The revenue of the Panama railroad from each ton of through freight during the fiscal years 1913 and 1914 was \$3.06. Each through freight train carried an average of 353.21 tons of cargo in the fiscal year 1913, and an average of 302.77 tons in the following year. The average amount of cargo carried on the laden vessels passing through the canal (in which the 27 vessels which have made the transit in ballast, are, by nature, not cargo-carriers, and are not counted) has been 5,835 tons.

The traffic eastbound through the canal, or from the Pacific to the Atlantic, and that westbound, or from the Atlantic to the Pacific, are summarized below:

Month.	Eastbound.		Northbound.		Total.	
	Vessels.	Cargo.	Vessels.	Cargo.	Vessels.	Cargo.
August . . .	12	57,182	12	49,106	24	106,288
September . .	30	186,776	27	135,262	57	322,038
October . . .	41	252,288	43	168,069	84	420,357
Nov. 1-15 . .	19	124,834	28	106,004	47	230,838
Total . . .	102	621,080	110	457,991	212	1,079,521

Over 95 per cent of the traffic may be grouped under these four routes: The United States coast-wise trade, the traffic between the Pacific coast of the United States and Europe, the trade of the west coast of South America with the Atlantic seaboard of the United States and with Europe, and traffic from the Atlantic coast of the United States with the Far East.

Activities of Michigan Markets.

Bay City, Jan. 5.—The Zagelmeir Cast Stone Co. has purchased an entire block of land on which to erect two large buildings for the manufacture of their product. This firm also has a large manufacturing plant in Detroit.

Grand Rapids, Jan. 5.—The Huron Portland Cement Co.'s local offices have been moved from the basement of the Old National Bank building to the Association of Commerce building.

The large plant formerly known as the Great Northern Portland Cement Co., located at Marlboro, a small town near here, is being dismantled and machinery and lumber being sold. The plant, like several others in Michigan, had a very eventful career and cost the investors a large amount of money. After changing hands several times the plant was bought by the Mobile Portland Cement Co. and the bonds sold to a Mobile bank. Of the many mills that have been unsuccessful, this is probably the last remaining plant that is unable to run profitably.

Detroit, Jan. 5.—The Builders and Traders Exchange are about to hold an election of directors. Ten candidates have been placed in nomination.

A. L. Waldorf, prominent contractor and sand dealer, distinguished himself last week by killing a lone gray wolf which had been frightening the residents of the East end, where his yards are located. As a general thing the wolves and bears of the Detroit suburbs are pretty well killed off, but this particular wolf had been making his home in the long stretches of marsh to the east of the city.

The Ajax Brick Co. has increased its capital from \$150,000 to \$200,000. The large plants of this firm are located in the west end of the city.

Material dealers look for a big year in 1915, for there are a great many large operations going ahead that are six months behind schedule. The brick manufacturers claim that they made and sold 300 million brick in 1914 more than the previous year. They have done better in the Detroit market than manufacturers of other material. It is estimated that 400 million common brick will be sold during the present year.

Through the efforts of R. H. Day, of the transportation department of the Builders' Exchange, the Detroit, Toledo & Ironton Railway issued a tariff which abolished the reconsigning charge by allowing 24 hours after arrival in Detroit switching limits free for movement on orders. This was a great relief to receivers and the other railways were later forced to follow suit.

CEMENT COMPANY RAISES ALL WAGES.

Who says prosperity hasn't come?

Everybody connected with the Portland Cement Co., from the office boy to the sales agent, is wearing a large smile now. For everybody connected with the firm "got a raise."

"I've made all the money I need," said Norman D. Fraser, president of the company, "and now I'd like to see some of you who have helped me make my share make more yourselves."

Mr. Fraser then announced that all employees would be raised from \$125 to \$500 a year beginning with the 1st of January. Office boys received the \$125 a year raise and the scale was graduated upward to \$500. The president of the company explained that business had been excellent in the last year, that the sales had picked up and that the outlook for the next year was bright. A fund of \$10,000 has been set aside for the year's raises.

SPANISH CEMENT CATALOGUE OUT.

In preparation for its trade extension campaign in South America, the Sandusky Portland Cement Co. has just issued a 32-page booklet, printed in Spanish, illustrating and describing Medusa white Portland cement. Copies may be had from the publicity department at Sandusky, Ohio.

CO-OPERATION AND WELFARE.

(Continued from page 14.)

of rails at home for \$40.00, we have both the rails and the \$40.00. NOW, we are forced to buy at home or do without, and we are not going without, a few straws will show which way the wind blows.

The Amoskeag Cotton Mills announce they will build a large plant for making cotton bags for sugar. They will use 17,000 bales of cotton per year, and pay out over a million dollars a year for labor.

The Thomas Edison Co. announces that it has brought to a successful conclusion experiments for manufacturing dyes from cold tar products and will begin at once to produce them on a large scale.

Business Increase 200 Per Cent.

One of the largest clock makers in the United States advised the writer in person that his business had increased 200 per cent since the war; that they were working night and day and had orders ahead for six months, all because cheap clocks made abroad cannot be obtained at all.

Mr. Miller Reese Hutchinson, chief engineer of the Thomas Edison Co., advised me personally that they have a process for manufacturing pure refined iron which is used largely in electrical work; that prior to the war this iron could be imported a few dollars less than they could sell it for; but that now they could not fill their orders, and he also said that before the war is over he had no doubt that they could produce it for less cost than the foreigner and thus establish a new industry in America.

The armies of Europe are stated to be wearing out over 14,000,000 pairs of shoes per month. Some shoes, if true. At any rate, it is a matter of common knowledge that American shoes lead the world and that the St. Louis factories put on 6,000 extra men in September.

The situation is true also of heavy harness for artillery horses and cavalry saddles, and the demand for American motor traction trucks and our own Missouri mules has taxed our capacity.

In this morning's papers, a record run of live stock was noted. Yesterday's receipts were the largest ever reported in November, and, except one day last month, the largest ever received in Kansas City in one day.

An associated press dispatch from New York announces that the money market is brighter, and that inquiry for good securities is increasing in volume. In the same paper, is a dispatch from Boston announcing that a Massachusetts firm has an order for 20 submarines for some European country, name not given. Good for the American ship builder.

The Government crop report yesterday showed the biggest wheat crop ever raised; the corn crop, equal to the past five-year average; the largest apple crop on record, and the potato crop 49,000,000 bushels above the past five-year average.

Results of Present War.

An article appearing in last Sunday's New York Herald entitled, "What the United States Will Get Out of the Present War," states amongst many other things that there is not the slightest reason why this country should not produce more creosote than it wants and become a big exporter instead of an importer; that coke oven and gas works tar is produced here to yield more creosote than is necessary; and since the situation has become clear, that is what is going to happen.

The writer goes on to state that what this country wants more than anything else is the chance to look around for a moment to take stock and find out the leaks in its industrial system; that this country has immense deposits of potash in California; that all that is necessary to get rid of the heavy toll paid to Germany is to place a bill

before Congress to make these supplies available; that it is a matter of record that the first commercial plant for the production of artificial nitrates was established in this country years before the possibility of doing it was recognized by European chemists.

We import phosphates from abroad, while we have raw material enough in Florida alone to last at the present rate of demand for a century, while in the West there are about 3,000,000 acres of phosphate lands with smelters close by, producing all the sulphuric acid which is necessary to convert them into first-class fertilizers.

There is no sense in continuing to import things which this country needs and which, with some trouble perhaps, could be produced here just as well; and if once started, better than abroad. In many cases chemical and metallurgical agencies could be established right away. Thus there would be no difficulty in establishing tin smelters in this country to handle the Bolivian ores, and such ores as are found in the United States. There are at present from 30,000 to 40,000 tons yearly shipped from Bolivia to Europe, containing in them about 50,000 tons of tin, which finally comes back to the United States saddled with a large additional burden of refining.

What may easily be done is illustrated in our production of sulphate of ammonia. In 1911, we imported from Europe 103,000 tons; in 1913, with a growing consumption, our importation fell to only 67,000 tons.

American Manufacturers Meet Requirements.

In pulp for paper manufacture, we imported last year 322,000 tons from Norway, Sweden, Canada, and the smaller markets of Europe. As a matter of fact, however, there are plenty of American mills, and what they need is the opportunity which has now come, and they are seizing it. The Battle Island Co., in Fulton, N. Y., produced 30,000 tons last year. The Malone Paper Co., enlarged since the beginning of the war, has now an output of something over 10,000 tons, and all over the country bright men are preparing to organize the supply of this fundamental material for the great manufacture of American paper.

We have been importing something over 600,000 bales of jute per year. The Department of Agriculture is developing a kind of seed that will grow here; the climate of Louisiana, Mississippi, and some other Southern states which have been hit by loss of the sugar cane industry or the over production of cotton, is adapted to the growth of jute, and they will welcome the change of crops no doubt.

It is therefore evidenced that given proper conditions, American industries can easily take care of a large amount of goods now being imported, and in many cases, we could become exporters ourselves of things now imported.

According to the latest figures, the Latin-American countries of the Southern hemisphere import annually \$1,304,000,000 worth of goods, of which we furnish \$317,000,000 worth. There is, therefore, \$1,000,000,000 worth of importations left to fight for in South America alone.

But why multiply instances? To the thinking man, the opportunity for development in our country is so obvious, so apparent, so self-evident, that it is axiomatic. There is nothing to argue about. The demand is here overwhelmingly large. The only question is as to our ability to finance properly the great mills and factories and warehouses that will be required in increasingly large numbers during the years to come.

The industrial development of America has only just begun, but it will come like an on-coming wave, sweeping everything before it. It would seem to be the part of wisdom for us to anticipate as far as possible the demands that are going to be forced upon us and to prepare in ample time for this tremendous growth, and not to be swamped by it because of our lack of facilities and our failure to

get ready for the opportunities literally forced upon us.

The greatest work of preparation is going to be placed upon the shoulders of the architects, engineers and contractors; and the next greatest burden will rest upon the shoulders of the transportation companies. It is therefore not only wise, but absolutely necessary, that we should get together and prepare our battle lines and be ready for the great building era that is bound to come.

Co-operation Invited.

We invite the coöperation of the real estate man to bring here factories and to locate suitable sites for them. We invite and must have the earnest, intelligent coöperation of the financial forces of the country to secure the necessary capital at least in part for the building which will be required. We invite and must have the earnest, energetic, intelligent coöperation of the architects and engineers, designing great, modern fireproof factories, sanitary, well-lighted, and in every way adapted for the economical production of factory products. We invite and must have the active work of the steel mills, the saw mills, the cement mills, the brick yards, the lime kilns, and the thousand and one supplies that enter into the modern building.

We must have the coöperation of the insurance men, the bonding companies, the casualty companies, and the fire insurance underwriters.

THE COOPERATION OF ALL IS ESSENTIAL TO THE WELFARE OF ALL and if we put our shoulders to the wheel, forgetting all our past troubles, our jealousies, and petty animosities, we will be working together with a united effort to solve the problem of construction. If we use half the vim and energy in construction that is being used in unhappy Europe in destruction, then America, the only great, peaceful nation left on earth will go forward to new heights and will set such an example we hope to the rest of the world by contrast that the arts of peace will forever prevail, and the horrors of war will be so unthinkable in costs alone that mankind will with one accord refuse to engage in "mass murder" until the end of time.

The press dispatches of this date estimate the destruction of factories in France alone at \$6,000,000,000 to date. What they destroy, we must sooner or later rebuild. Why not sooner? It is our move.

New Incorporations and Ventures.

The retail lumber business which has been conducted by Snyder, Hancock & James Co., at Scrub Grass, Pa., in Armstrong county, has been dissolved. It will be managed in the future by the Tidal Lumber Co., a new concern at Scrub Grass.

The Wise Lumber Co., of McKeesport, Pa., has secured a Pennsylvania charter with a capital of \$10,000. The incorporators are Leslie W. M. Wise, C. L. Reisenstein and Eugene B. Strassburger, of Pittsburgh.

A new retail concern at Lock Haven, Pa., is the Hipple Planing Mill Co., which has applied for a Pennsylvania charter. The members are W. H. Newlin, W. B. Hayes and Henry Hipple. The concern will deal in all kinds of lumber and also handle other lines of building material.

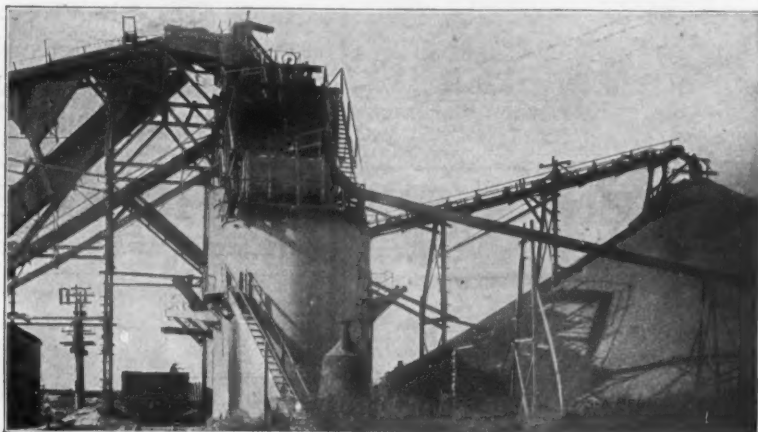
The Cresson Lumber Co. has been organized at Cresson, Pa., by John G. Marks, R. J. Esler and Stephen Stone, of Pittsburgh, Pa. It will do a general retail lumber and planing mill business and will also carry stone and other building supplies.

The Verona Lumber & Supply Co. is getting a Pennsylvania charter and will be located at Verona, Pa., some 20 miles up the Allegheny river from Pittsburgh. The incorporators, Edgar P. Marsh, Edmund J. Bald and Edgar B. Foss, recently bought out a planing mill and lumber yard at Verona and will carry in addition to lumber a good stock of builders' supplies.

WHAT DO YOU DO WITH YOUR SURPLUS STONE?



THIS PLANT PRODUCES 3,000 YARDS PER DAY—OUTSIDE STORAGE CAPACITY IS 25,000 YARDS



A SINGLE BELT CONVEYOR PROVIDES STORAGE CAPACITY OF 3,000 YARDS

SOME of the gravel men have been beating the market both ways. They sell their sand for the market price and if they haven't orders for stone, they store it until they can get a decent price. Some of the firms that have equipped for storing a surplus, say, "We often used to sell our stone ten or fifteen cents below market just to get rid of it. Now we can produce sand or any size in demand and store the surplus. On some winter orders for stone, we have been able to get fifteen cents above regular market."

"Labor Saver" No. 66 gives some new ideas on surplus storage. Write for your copy.

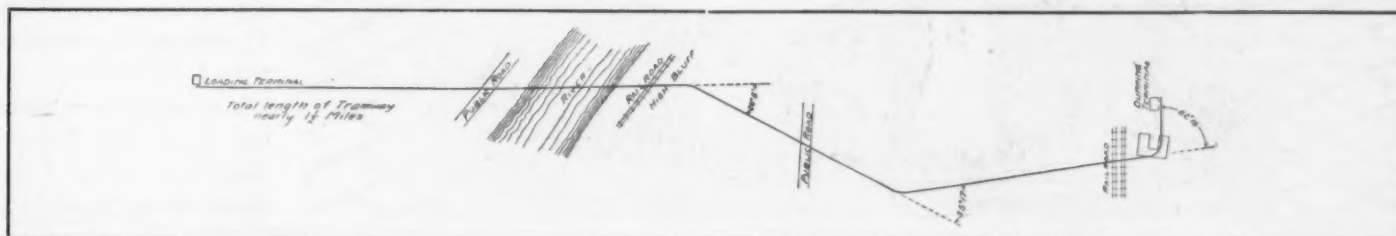
The cheapest way to store is with the "S-A" Belt Conveyer. Let one of our engineers investigate your conditions and design a storage system to suit your requirements. Write.

Stephens-Adamson Mfg. Co. AURORA, ILLINOIS

NEW YORK BOSTON CHICAGO LOS ANGELES
PITTSBURGH SALT LAKE CITY ST. LOUIS TORONTO

We design and manufacture conveying machinery for rock crushing plants, gravel washing plants, storage systems, etc. Also transmission and screening equipment, elevators, gates, feeders, car pullers.

AS TO CURVES IN A TRAMWAY



UNTIL the advent of the Lawson Tramway, the curve has been a point to be avoided at almost any cost,—necessarily so because of the severe side strain imposed upon the tall towers inseparable from the bucket tramways. There is no room to discuss this in an advertisement but it is fully treated in our Bulletin H along with other details and adaptations. The curve or angle presents almost no difficulties in the Lawson Tramway. The construction is such that side strain is entirely eliminated except the negligible strain arising from the traction rope. There are no towers,—the structure is close to the ground,—and the added expense for the angle is almost nominal.

The line cut shows one Tramway that has been in successful operation for several years. The total length is a little under 1 1/2 miles. There are three curves aggregating a total of 145° 38' or very nearly a complete half-turn. It is operated with 80 cars, each carrying from 1200 to 1500 lbs. of rock in addition to the weight of the car. The speed is 400 ft. per minute and the total traffic is 700 tons per day. There is a grade of about 100 ft. in the total length, all against the load. The final curve of nearly a right angle is on the top of the main mill building. The tramway

crosses several public roads, two railroads, and one river,—the last on a span of about 700 ft.

While it is manifest that a straight line is preferable and naturally the cheapest, the Lawson Tramway has no limitations in regard to curvature. Any number of angles can be negotiated at an increase of cost which is almost nominal.

Our Bulletins A and B will be found interesting and the services of our Engineering Department are placed at the disposition of our clients. Lay your case before us with as complete data as possible, and we will give it our best attention.

Very respectfully,

Ambursen Company

(TRAMWAY DEPARTMENT)

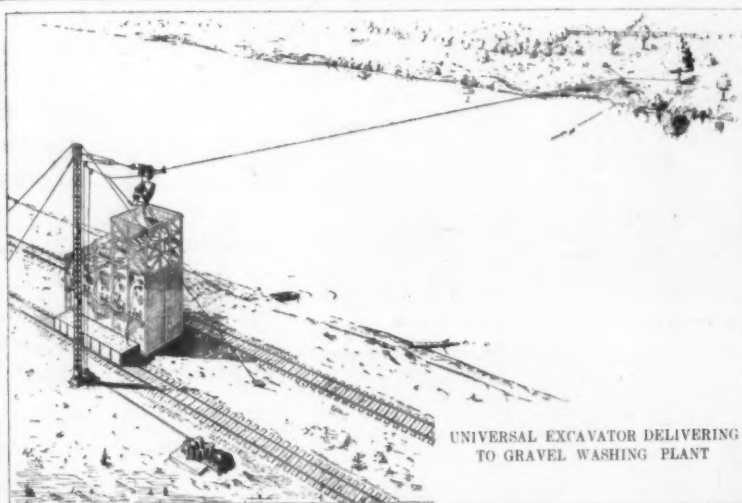
61 Broadway, New York City

Tell 'em you saw it in ROCK PRODUCTS AND BUILDING MATERIALS

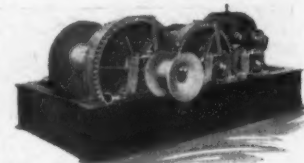
UNIVERSAL CABLEWAY EXCAVATORS



Our Excavator Buckets are designed to dig with minimum power. Wearing parts are all readily renewable. Patent toggle and tipping chain to load insure positive, easy digging action.



UNIVERSAL EXCAVATOR DELIVERING TO GRAVEL WASHING PLANT



Steel Frame Electric Hoist with cut cast steel gears throughout designed especially for excavator duty. The strongest, fastest, most durable electric hoist built.

J. C. BUCKBEE COMPANY, ENGINEERS, CHICAGO

? ARE YOU A LIME, CEMENT, STONE, ? OR SAND AND GRAVEL PRODUCER ?

Our Service is for You We are Engineers—Designers of Sand and Gravel Washing Plants—Manufacturers of Dull's Tubular Washer, Cableway Excavators, Screens, Conveying Equipment, Pulleys, etc. See our full page advertisements in the previous and next issue of ROCK PRODUCTS AND BUILDING MATERIALS, or write today to our Chicago office.

The Raymond W. Dull Company, 1912 Conway Bldg., Chicago, Ill.



Duplex Bin Gates

WELLER-MADE

DELIVERY GATES
Undercut Overcut Duplex
Plain or Special

SCREENS :: ELEVATORS
Everything for handling Sand, Gravel and Crushed Stone
Weller Mfg. Co., Chicago



Undercut Bin Gates



Stucco houses on Sprague Street, Akron, Ohio. A section of the Goodyear allotment on which Willis & Carley Co., Contractors, erected over 100 Stucco houses, using Sykes' Self-Furring Metal Lath.

Do you know the Metal Lath constructed so that you need no Furring Strips? This saves you from 3 to 5 cts. a square yard—saves you money on Stucco work, on Overcoating, or on Interior Plaster work.

SYKES' SELF-FURRING METAL LATH

This Expanded Cup Lath is crimped so as to provide a perfect key for the mortar without the use of Furring Strips. It becomes thoroughly imbedded in the stucco or plaster—a true Backbone of everlasting strength.

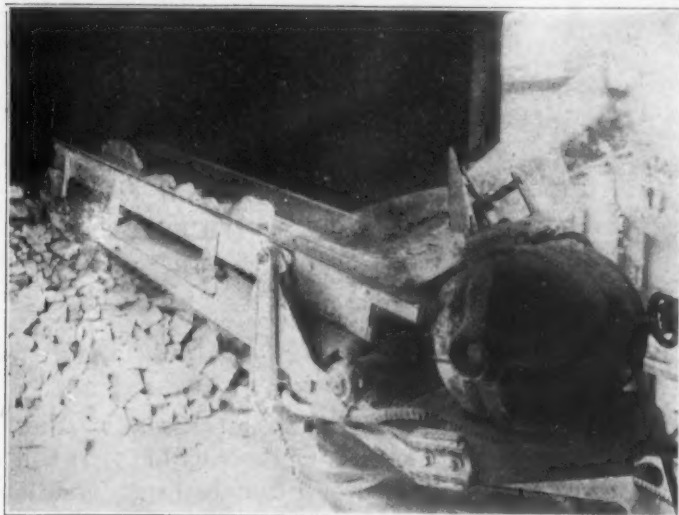
Sykes' Metal Lath is cut with a wider strand than that of other makes—therefore when it is cut from the same gauge of metal it is **Heavier, Stronger, Better**. Best for Stucco work, for overcoating and for plaster work. Keys perfectly; can't be applied wrong. Indorsed by architects, approved by U. S. Government for Post Office work.

SYKES METAL LATH & ROOFING CO.
508 River Road, WARREN, OHIO



GET THIS FREE BOOK
A set of Complete Specifications for Stucco on Metal Lath and a free sample of Sykes' Metal Lath sent free. This is of value to you. Write for it.

Tell 'em you saw it in ROCK PRODUCTS AND BUILDING MATERIALS



**A BOX CAR LOADER
THAT LOADS
LARGE LUMP LIME
WITHOUT APPRECIABLE
BREAKAGE!**

24" Belt Lump Lime Leader at Work in a Box Car

IT IS THE

LONG REACH **MANIERRE** LOADER

A six months' trial in actual operation at the Cedar Hollow Plant of the Chas. Warner Co., at De Vault, Pa., has proven this box car loader to be the only successful machine of its kind in the lime field. It was shown to be as speedy and economical for lime as it is for coal.

The long reach Manierre loader has been well and favorably known to coal men ever since its first appearance. On the docks of the Berwind Fuel Co., at Duluth, to take one example of many, it has given absolute satisfaction in loading large lump coal, where others had failed. This huge portable screening plant of the Berwind Fuel Co., is the most up-to-date and elaborate of its kind in the world. No expense was spared to secure clean coal without breakage. Hence the installation of a Manierre.

Wherever coal men have installed a Manierre Loader, there have been repeat orders. We prophesy it will be the same in the lime field.

One inexperienced man and helper can handle this simply constructed loader. There are no expensive repairs.

The initial expense and upkeep of the Manierre Loader is small. It will pay for itself in a short time. Write for details.

The "Manierre" Loader is a conveyor supported on two arms hinged from a post in such a manner as to be easily moved into a box car by hand, lime or other loose material being conveyed into the car and piled to any depth by the machine with the least amount of breakage. The chute usually is on the loader side of the car and is flexibly attached so as to follow the loader in all positions. The chute, however, can be located on the opposite side of the car. A deflector at the receiving end of the loader turns the lime as it comes from the chute in the direction of the belt, thereby reducing the breakage of lime and increasing the life and capacity of the belt. To reduce breakage when starting to load, the conveyor is tilted towards the floor by turning a crank at the rear end of the machine. This is quickly and easily done because of the balanced construction of the loader. The jack for raising and lowering the loader to accommodate it to cars of varying heights is mounted on the loader post and can be easily operated by one man.

Manierre Engineering & Machinery Co.

MILWAUKEE

WISCONSIN

Tell 'em you saw it in ROCK PRODUCTS AND BUILDING MATERIALS

Good Profits for the dealer



Increased Sales

Salt Glazed Brick has been manufactured for over 25 years, but only in recent years has been generally advertised. Its use is now growing very rapidly and many buildings in such cities as Chicago, Washington, etc., have been constructed of salt glazed brick. Prominent architects and builders from all parts of the U. S. have visited the Ohio region where the brick has been in use for years and are convinced that a wall of this brick makes the most beautiful surface obtainable.

This brick will withstand the severest weather conditions and is practically indestructible. It will not peel off or chip as does enamel brick and is 50% cheaper.

We offer special inducements to dealers in building materials. Write us today for our catalogue containing photographs of many buildings built with salt glazed brick.

The Hocking Valley Fire Clay Co.
NELSONVILLE - - - OHIO

We Make It Easy For You to Sell

Kno-Burn

Expanded Metal Lath

Every order we receive for Kno-Burn is sold through dealers exclusively. We will not sell the consumer direct. By this policy, Mr. Building Supply Dealer, you are protected and are sure of your profits. Our national advertising is creating a constant demand for Kno-Burn.

Architects and builders everywhere specify it. It is the logical choice of the careful builder for all kinds of interior plaster work and exterior stucco, because it absolutely insures walls that are permanent and smooth.

Why not handle Kno-Burn and get your share of the profits? Send for details and prices and booklet 293.

North Western Expanded Metal Co., 929 Old Colony Bldg., CHICAGO, U. S. A.

Tell 'em you saw it in ROCK PRODUCTS AND BUILDING MATERIALS

N. B. S. A.

Do You Know?

What it costs you to do business?
 What it costs you to deliver a ton of cement, plaster, lime, or a load of brick?
 What it costs you to unload and warehouse your material?

What it is costing you to sell it?
 If you do, you are the exception.

These very pertinent questions have been placed before the dealers throughout the country in the third circular which the National Builders' Supply Association is sending forth announcing the sixteenth annual convention of the organization, which is to be held at the Hotel Sherman, Chicago, on Feb. 8 and 9.

No doubt, some who will read these words will be in a position to consider them without admitting the negligence they imply to those who must answer, "No," because there are a few exceptions; but in the building supply business, as in a great many other trades, the majority of retailers have no satisfactory and efficient method of determining the cost of doing business.

This is really one of the first and most important principles to a successful business, and it is an indisputable fact that those associations having a uniform cost system are in a healthier condition, and THEIR MEMBERS ARE GETTING BETTER PRICES than associations which have not.

It is well, therefore, that the National Builders' Supply Association has during the past year given this subject the consideration which it deserves and has arrived at what it believes to be a satisfactory solution of the cost problem. A uniform cost system has been devised and has been approved by members of the board of directors of the association; and the question of its adoption will be submitted to the dealers for their consideration at the coming convention.

The importance of this subject cannot be minimized, for as stated above it is one of the fundamentals of good business; and every dealer who has a desire to keep himself abreast with the march of progress, should make every effort to attend the sessions of the convention and assist in the adoption of this cost system.

N. B. S. A. Notes.

Secretary Desmond, while visiting the office of ROCK PRODUCTS AND BUILDING MATERIALS last week, had in his possession the application of the J. L. Mitchell Co., dealers in builders' supplies at Atascadero, Cal. The application was written on the blank which appears in each issue of this publica-

tion, thus again proving that this medium reaches every nook and corner of the country.

Now is the time for dealers who have not taken advantage of the application blank to tear it out and send it in to headquarters. You, no doubt, are going to attend the convention and this will help you to start the New Year right. The dues, which are only \$10, will prove one of your best investments.

President Cormack is to be in the Pittsburgh territory next week and will address the dealers of that city on Tuesday, Jan. 12, at the invitation of D. J. Kennedy, who is also a member of the board of directors of the N. B. S. A.

Charles R. Van Hise To Speak.

No greater authority on the subject of "Federal Anti-Trust Legislation" probably exists today than Charles R. Van Hise, president of the University of Wisconsin.

Mr. Van Hise has talked on this topic before the biggest gatherings of business men that have been held in this country, and at the last meeting held by the Chamber of Commerce of the United States, in Washington, D. C., February, 1914, was one of the principal speakers on the subject of proposed anti-trust legislation.

The members of the National Builders' Supply Association, and those interested in the building material business generally, should feel proud of the fact that they are to listen to what this prominent educator and student of national affairs has to say on this very important subject and to learn from him the great benefits that result from co-operation versus ruinous competition.

Mr. Van Hise is to be the only speaker at the banquet, which is to be held at the close of the convention on the evening of Feb. 9. It is promised that this banquet will excel all previous efforts.

There is no doubt that those who will be fortunate enough to be present will go back home filled with a determination to practice as well as preach this spirit of co-operation which should dominate modern business. In order that you may not be disappointed, it is suggested that you get in touch with association headquarters at once and make your reservation for the convention and banquet.

E. S. Snyder & Sons Co. has been incorporated at Chicago with a capital of \$2,000, to deal in building supplies, etc.

With a capital of \$50,000, the Citizens' Supply & Elevator Co. has been organized to deal in builders' supplies at Cleveland, Ohio.

Tenth O. B. S. A. Convention.

Announcement has just been sent to the members of the Ohio Builders' Supply Association by Secretary J. C. Neely that the next annual convention will be the tenth in number and will be held at the Secor hotel Toledo, Ohio, Feb. 10, 11 and 12. The greatest program in the history of the association has already been arranged and items of vital interest to every dealer in Ohio will be discussed.

The Ohio Builders' Supply Association has become well known because of the activity it has shown in all questions confronting the builders' supply interests and through the practical demonstration of its earnestness as shown in its recent endeavor in connection with the state lien law.

There are two meetings held annually by the Ohio association, one of which is conducted in connection with midsummer outing at which its members and their friends take advantage of the opportunity to bask in the sun and enjoy the water of Lake Erie at Cedar Point. The other meeting, which is the more important of the two, is held during the winter in different places of the state. It is at these winter meetings that the annual elections are held and definite action taken on important questions confronting the association. With the three-days' session to be held this year, much thought and consideration can be given to the questions before the Ohio dealers. The convention should so enlighten and enthuse them as to send them back to their respective fields of endeavor with a firmer determination to do business with twentieth century methods and in a manner commensurate with the dignity that should be maintained by all retailers of builders' supplies.

Retailers of Ohio, whether members of the association or not, should mark Feb. 10, 11 and 12 with a red, blue or black pencil in so conspicuous a way that each time their eyes fall upon the February calendar they will become more impressed with the necessity of attending the convention. Nothing but good and of lasting benefit can come from these winter meetings of the Ohio Builders' Supply Association.

JACKSON, MISS., BUILDERS' EXCHANGE ORGANIZED.

Jackson, Miss., Jan. 5.—The Builders' Exchange of Jackson has been organized and will be composed of material men, contractors, roofing workers, painters and plumbers. W. J. McGee was chosen as provisional president; S. N. Cox, vice-president, and A. D. Paine, secretary.

NATIONAL BUILDERS' SUPPLY ASSOCIATION.

Chamber of Commerce Bldg.

Chicago, Ill.

Application for Membership.

The undersigned being heartily in accord with the "Constitution" and eligible to membership in the National Builders' Supply Association under requirements of Section I, Article 3 (ACTIVE), or in Section I, Article 4 (ASSOCIATE), does hereby apply for membership:

Firm name.....

Signed by.....

P. O. Address.....

Date.....

Officers.

President—Edw. K. Cormack, Chicago.
 Treasurer—John J. Voelkel, New Orleans.
 Secretary—L. F. Desmond, Chicago.

Directors.

J. H. Allen, Lincoln, Neb.
 Charles Warner, Wilmington, Del.
 C. N. Ray, Detroit, Mich.
 W. F. Jahneke, New Orleans, La.
 C. M. Kelly, Providence, R. I.
 W. W. Coney, Cincinnati, O.
 L. W. Macatee, Houston, Texas.
 D. J. Kennedy, Pittsburgh, Pa.

CONCRETE

Decorative Features of Midway Garden

Unique Expression of Art as Developed by Frank Lloyd Wright, Architectural Genius of Chicago.

The widespread use of Portland cement concrete in heavy foundation work, piers and abutments, warehouses, factory buildings, streets and roads, has led many people to believe that concrete is adaptable only to the heavier types of construction, and entirely unsuited for finer craftsmanship.

When consideration is taken of the fact that Portland cement is comparatively a new material and that it has been generally used only one decade, it is not surprising that greater advances have not been made in the use of Portland cement as a decorative material.

It is a fact that concrete is almost an ideal material for ornamental uses and elaborate designs. Portland cement concrete lends itself most readily to duplication.

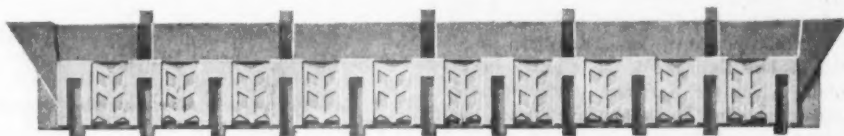
The comparatively slow-setting properties of Port-

land cement make it possible to place this material carefully and with great precision. While the possibilities of concrete in ornamental work are almost unlimited, the scarcity of good examples of such work are largely due to the scarcity of artisans with ability

nature will be made in architecture featuring the employment of Portland cement concrete.

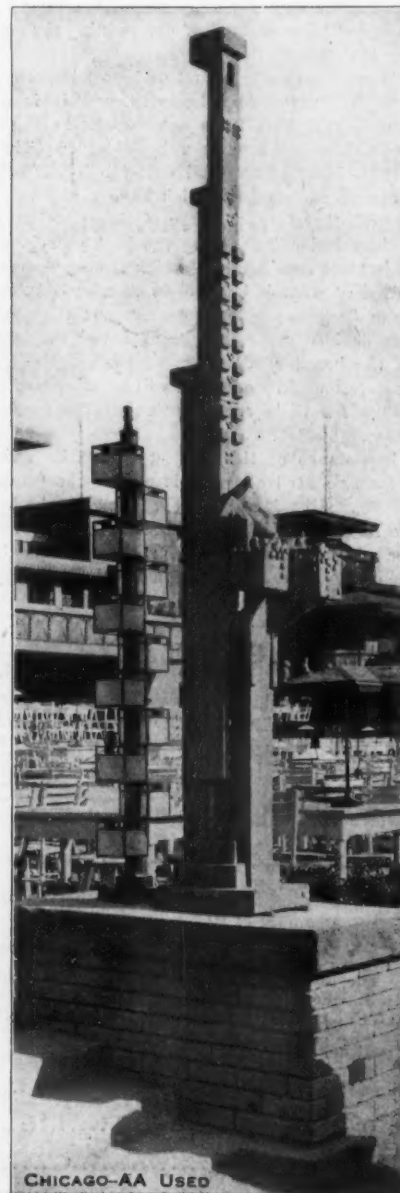
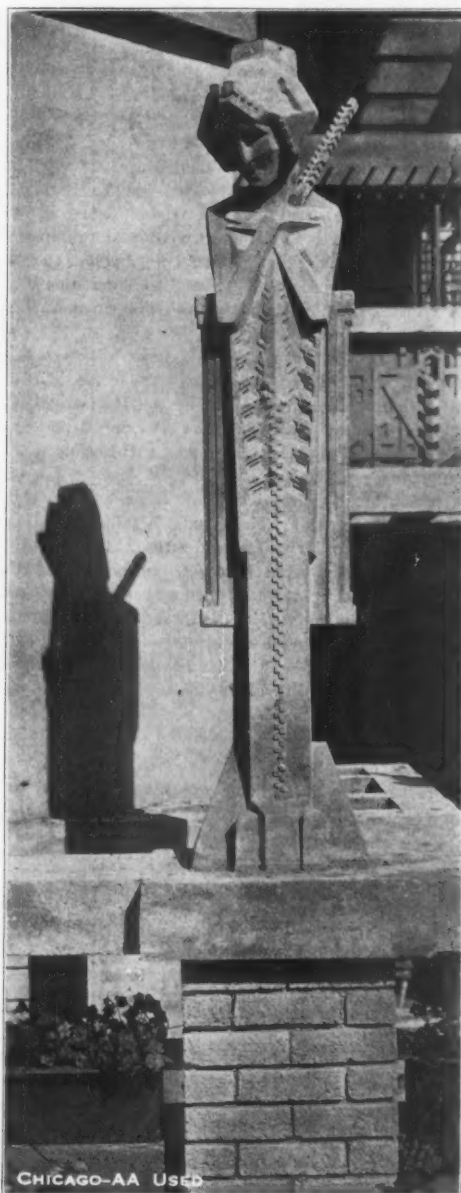
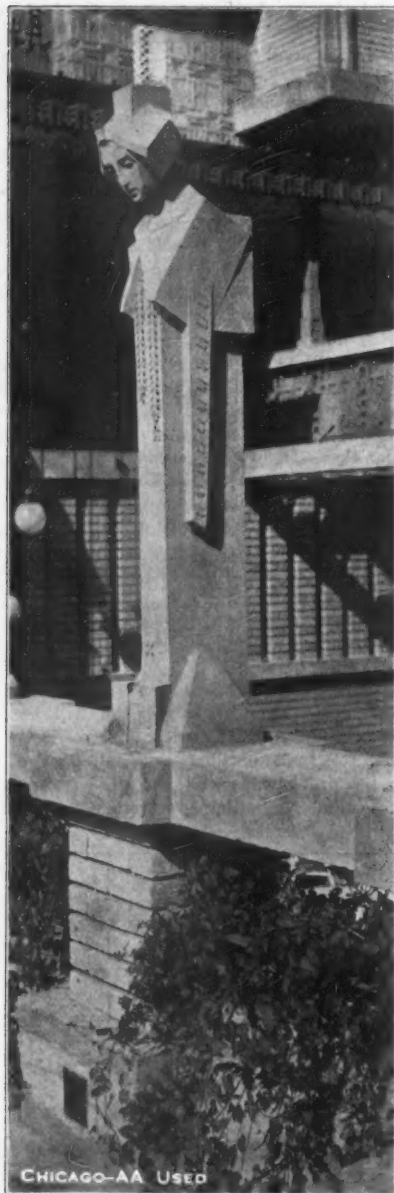
One of the latest examples of beauty and utility in concrete is the Midway Gardens in Chicago. This structure is doubtless the most unique architectural conception in the world, which is graphically described in a handsome booklet entitled "Beauty and Utility of Concrete," published by the Chicago Portland Cement Co., whose "AA" Portland cement was used throughout the job, and from which publication the pictures shown here-with are reproduced.

Frank Lloyd Wright, the famous architect of Chicago, designed the Midway Gardens. A. Iannelli supervised the modeling of figures and panels. The Mueller Construction Co. were the contractors and executed all concrete work with men especially trained for the work. In idea, the Midway Gardens



to plan and execute ornamental structures. However, the few examples of decorative concrete which have been produced within the last few years have been an incentive to architects and builders to experiment with Portland cement, and it is safe to say that great advances of an esthetic

are modeled after the gardens of Germany and other Continental European countries. Architecturally, the gardens are modeled after nothing European. They are not an attempt to reproduce a Greek temple or a Swiss chalet, but are purely and originally American. They bear upon them



unmistakably the stamp of their architect, Frank Lloyd Wright, with their continuous horizontal lines and low, broad overhanging eaves. Throughout the whole, concrete is the predominating feature. Some of the walls and columns are partly of cream colored brick, setting off the grey concrete work admirably, but the construction is fundamentally concrete. And the most wonderful part of it all, is the intricacy of some of the designs executed in concrete—elaborate sculpture with something of the oriental suggested in its delicate traceries. Those who see in concrete only a material to be used in bulky masses will be confounded by the results achieved here.

The architectural concrete work was done in a plant constructed for this work in the rear of the gardens, supervised by A. Iannelli, the sculptor of the figures and panels. There are nearly 100 of the figures in all, and many hundred panels of different designs. Patterns, similar to those used in making castings in a foundry, have been made of wood and plaster, exactly reproducing the desired figures. From these patterns molds are made of paper and glue-like gelatinous substance, the mold for a figure being divided into two parts. In these molds the figures are poured. When they have set the molds are removed. This type of mold makes the work possible, since the figures contain angles which it would be impossible to secure with a rigid mold. Water from a hose is kept spraying over the completed figures until

they have cured sufficiently to allow them to become dry. Here is also a carpenter shop for making wooden forms, with a saw rig driven by a Novo gasoline engine.

Some of the designs were such as to necessitate a mold of over eighty individual parts, which could be removed one at a time to make it possible to free the cement casting, which was done in the dry cast process and removed immediately from the molds, as otherwise no such effect could have been produced. The Mueller Construction Co. had a special corps of men thoroughly trained by much experimenting on former work. The unusual molded concrete work done on the Midway Gardens should be of great interest to the cement block industry, and should give this industry a great impetus in the right direction. Concrete workers would do well to make a careful examination of the work done on the Midway Gardens whenever opportunity presents itself.

NEW INCORPORATIONS.

Universal Concrete Bar Co., Chicago; capital, \$2,400; manufacture and deal in protection bars and other construction appliances of metal, wood, concrete, etc.; incorporators, Carl R. Chindbloom, Oscar W. Brecher, Lambert Kaspers.

The Citizens' Concrete Co., Providence, R. I.; capital, \$25,000; John H. Connor, Smithfield, and John B. and Joseph H. Banigan, of Providence.

Consolidated Concrete Pile & Bulkhead Co., care of the U. S. Corporation Co., Dover, Del.; capital, \$500,000.

Pittsburgh, Pa., Jan. 4.—The concrete men in this district are hoping that the movement to further the use of concrete in bridge construction will continue to gain in volume. Reinforced concrete for building is being used here more than ever before. Engineers who make a specialty of this kind of construction were very well favored with business last year, except in the last two months. They believe that more projects will come forward for estimates before spring as many of these are now being shaped up. The Pennsylvania Railroad Co. is taking bids on a double-deck reinforced stock pen on Herr's Island, Pittsburgh, which will measure 170 x 190 x 512 feet. The plans were prepared by the company's engineer, Joseph T. Richards, at Broad street station, Philadelphia.

The Waukesha Cement & Tile Co. has moved its plant from Madison, Wis., to Waukesha, Wis., where it is erecting a new building. Drainage tile for farm use will be specialized in for the present.

Concrete in the Greenhouse.

W. J. Barnes, a florist of Kansas City, has proved to his complete satisfaction that concrete for greenhouse benches is not only more artistic and convenient than wood, but far more economical. Mr. Barnes had his first concrete benches installed about five years ago, and wooden benches built about the same time are falling to pieces, while the concrete benches are as sound as ever. The picture shows a concrete and a wooden bench; the latter will be replaced shortly with the more enduring material. The first concrete bench was built



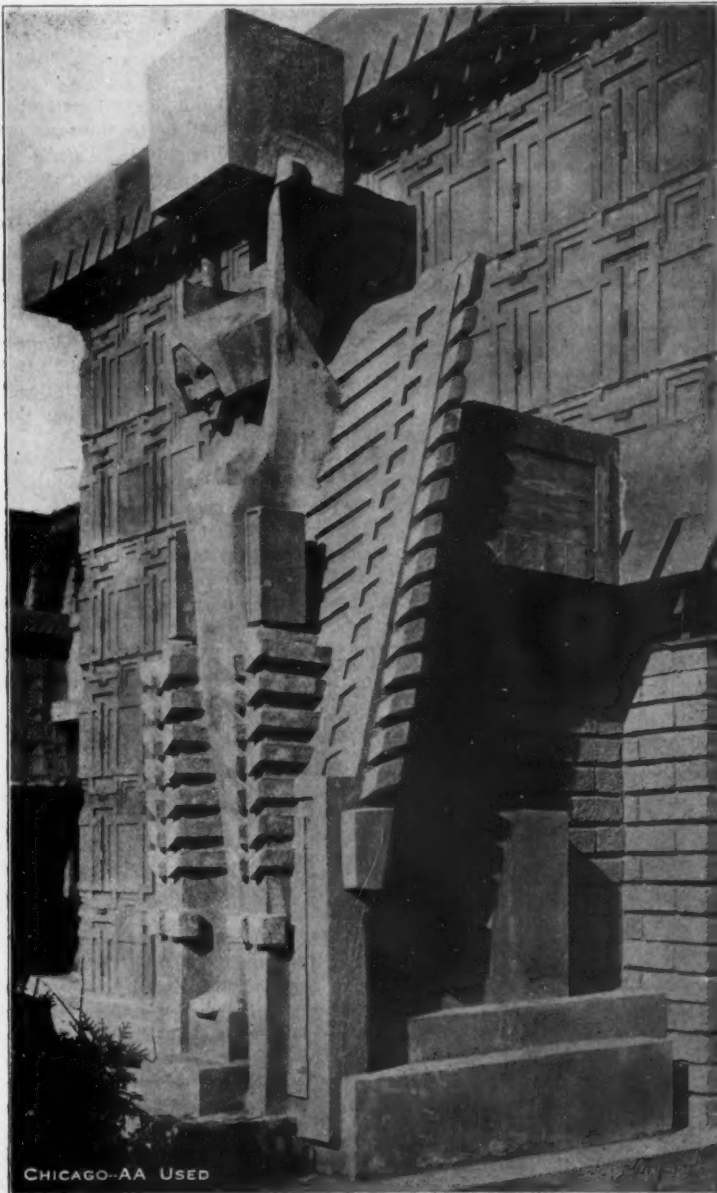
CONCRETE AND WOODEN BENCHES IN THE BARNES GREENHOUSE.

under contract; later ones have been built by the men in the greenhouse, at odd times.

A feature of this work is that as a piece of wood rots out from any part of a bench, that part (and its necessary foundation) are reconstructed of concrete, the complete replacement waiting the required leisure time. The posts of the benches are reinforced with pipe, the pipe extending to the roof and forming the support of the glass as well as providing convenient means of erecting cross-pieces and installing hooks for holding baskets. The end pieces of the benches are reinforced with five-eighths-inch rods, two in each end; the sides are similarly constructed.

The bottoms of the benches are of peculiar construction, as the needs of greenhouses demand. They consist of slabs, with spaces between, this practice being necessary to provide drainage. Ordinarily the slabs in benches being, of course, thick, have been made narrower at the top than at the bottom; or, in other words, the intervals are wider at the top than bottom. The result of that practice was that the earth, when earth was used for filling, inclined to pack in these inter-spaces, and drainage was quickly hampered. Mr. Barnes makes his slabs, which are six inches wide and one and one-quarter inches thick, wider at the top than at the bottom; and the distance between the slabs above is one inch, below one and three-quarter inches. The result is that there is no danger of dirt becoming packed. Even the silt draining through the cinders or other material drains on out; and a piece of cinder becoming lodged is easily punched through to the ground. The slabs are reinforced with a quarter-inch rod through each slab.

Cinders are largely used for making the concrete, being obtainable from the greenhouse plant's engine room, and seeming to give quite satisfactory service. The cinder concrete seems to give a smoother surface, one difficulty with the home-made concrete being the sharp points and edges that tear clothing and rasp hands of passing workmen.



CHICAGO-AA USED

To Study Behavior of Concrete in Edison Fire

A special investigating committee has been appointed by the American Concrete Institute to study the behavior of concrete in the buildings of the Edison plant at West Orange, N. J., during the conflagration which occurred on the night of Dec. 9.

The committee consists of Cass Gilbert, chairman, celebrated architect of New York; E. J. Moore, secretary of the Turner Construction Co., New York; R. P. Miller, of the New York building department; Prof. Charles L. Norton, of the Massachusetts Institute of Technology, Boston; Richard L. Humphrey, consulting engineer, Philadelphia, Pa.; Walter Cook and J. Marx Taylor, architects, New York; and W. H. Ham, engineer, Boston, Mass.

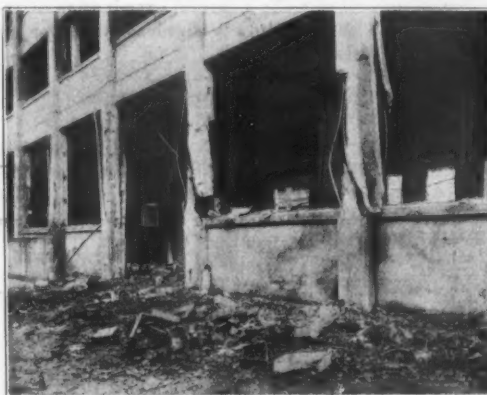
Steel window frames and sash with wire glass are being installed in several of the burned-out buildings, and these are being reoccupied by the Edison company's operations as rapidly as the refitting is completed. Several cement gun outfits have been secured and are in use for cleaning the surfaces of the concrete buildings which came through the fire, but the full program of the refitting of the damages sustained by the fire loss has not been completed.

As stated in our last number, which went to press before photographs were obtainable, the first impression that came to the mind of an expert observer was the fact that amongst all of the wreckage nothing stood intact except concrete alone.

An accompanying illustration gives some idea of the vista of destruction. Another illustration shows the only damage that occurred to the reinforced concrete structure insofar as the concrete itself is concerned. It will be observed that the floor beam above shows little or no deflection, so that the replacement of a new sustaining column seems to be rather an insignificant engineering detail, but of this the special committee of the institute will doubtless give us more complete advice after their investigations have been completed. The refitting of the buildings now in progress with steel frames, sash and wire glass, bears out Mr. Edison's first conclusion with regard to that vulnerable feature of the type of construction employed throughout the plant.

This acknowledged defect amounts to a disclaimer on the part of Mr. Edison that he ever considered the buildings of the plant as the "last word" on fireproof construction in concrete. Those

who were present at the time of the fire state that the conflagration spread from building to building by means of the bursting of the glass and the prompt igniting of the wooden sash and frames. The fact that all of the structures to be rebuilt will be of concrete is the best proof that Mr. Edison and his staff have found nothing in the fire to shake their confidence in concrete. It is not to be supposed, and has never been claimed, that such materials as carried the flames in the fire of the Edison plant could be prevented from combustion when once a small degree of heat had been reached, no matter what precautions had been taken or what



TYPE OF DAMAGE TO SEVERAL COLUMNS.

hereafter may be decided upon. The combustion of such materials, in fact, amounts to a very different chemical process from that of ordinary combustion and it is quite likely that no amount of water, however applied, would have made any noticeable difference in the result, for the application of water in many combinations of burning material assists and augments a fire, and such types of combustion can only be attacked with any hope of reducing the effect of the blaze by the proper kind of chemical extinguishers consisting of gases which will counteract the process of combustion in such materials.

It is a matter of fact that something of this kind had been installed at the Edison plant, but

the apparatus was not understood by the firemen, so that it failed to be put into service. The report of the special committee of the American Concrete Institute is awaited with interest.

AMERICAN CONCRETE INSTITUTE CONVENTION.

The eleventh annual convention of the institute will be held at the Auditorium hotel, Chicago, Feb. 9 to 12, 1915. The convention will mark the completion of the tenth year of the existence of the institute, and an especially interesting and profitable program is being arranged. The sessions will be at 10 a. m., 3 p. m. and 8 p. m.

Summary of Program.

Tuesday, Feb. 9—Important papers and discussions relating to the status of concrete road construction in the United States will be presented, and special attention given to cost of construction and of repairs and maintenance.

Wednesday, Feb. 10—Discussion of the very important column tests made by the institute at Pittsburgh, tests of buildings, and other matters of current special interest.

Thursday, Feb. 11—Discussion of architectural design in concrete, art concrete stone, treatment of surfaces, etc.

The annual banquet in the evening will be in celebration of the completion of the tenth year of the existence of the institute.

Friday, Feb. 12—This day will be devoted to papers covering plant management and costs, the design and the cost of wood and metal forms, and the method of placing, proportioning and selection of concrete materials.

The convention will be of unusual interest. The papers and discussions will be by the foremost engineers, contractors and architects. Details of program sent on request by secretary, Harrison Bldg., Philadelphia, Pa.

The committees of the institute will present reports on the subjects stated.

Concrete Roads—Revised Specifications.

Concrete Highway Bridges and Culverts—Foundations, design and construction.

Concrete and Reinforced Concrete—Results of tests on 24 columns, 20 in. diameter and 12 ft. long. Nomenclature—Proposed standard notation.

Insurance—Present conditions affecting the fire insurance of concrete structures.

Cement Products—Recommended Practice and Specifications for Cement Drain Tile.

Treatment of Concrete Surfaces—Stucco specifications on wood lath and dustless floors.

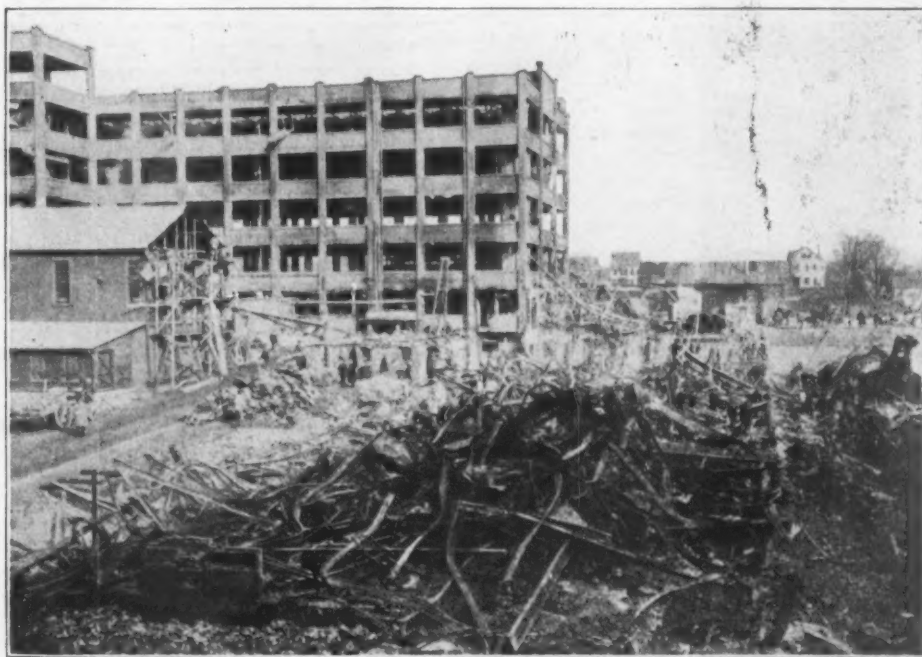
Methods of Tests and Standard Specifications for Concrete Materials—Tests of aggregates and test pieces.

CEMENT SHOW A BUSINESS BAROMETER.

With the general return of confidence as evidenced by lowering interest rates and other unmistakable signs, it is certain that the coming year will be a profitable one for the contractor. Following every period of curtailed business comes a time of increased activity, a season in which construction catches up. Certain lines of trade may recuperate slowly, but many are already showing increased activity. Home manufacture must heavily increase.

The building of roads in particular is entirely apart from those activities which should be curtailed at a time of financial depression. Better highways conserve the nation's resources, making production costs lower and facilitating the resumption of normal business.

The facts are generally understood and have had marked influence upon the policies of manufacturers of contracting equipment who see in the coming year an unprecedented opportunity for business expansion in this line.



GENERAL VIEW OF THE PLANT OF THE EDISON CO. AT WEST ORANGE, N. J., FOLLOWING THE FIRE OF DECEMBER 10.

The market place of the building material industry. Employment department, machinery wanted and for sale, etc. If your wants are not answered in this page, write a letter to this office.

THE FRANCIS PUBLISHING CO.
537 S. Dearborn Street Chicago, Illinois

:: THE :: BOURSE

Advertisements will be inserted in this section at the following rates:

For one insertion.....35 cents a line
For two insertions.....45 cents a line
For three insertions.....55 cents a line

Eight words of ordinary length make one line. Headings counts as two lines. No display except the headings can be admitted.

Remittances should accompany the order. No extra charges for copy of paper containing the advertisement.

EMPLOYEES WANTED

HELP! HELP! HELP!

LET US HELP YOU.

We want employers who are looking for good help to advertise in the "Wanted Employees" column, because we know that they will get good results. ROCK PRODUCTS AND BUILDING MATERIALS.

WANTED—Quarry superintendent, to be strictly high grade man who has had experience in quarrying rock with steam shovel. State age, experience, and salary expected. Address Box 1027, care ROCK PRODUCTS AND BUILDING MATERIALS.

EMPLOYMENT WANTED

SITUATION WANTED, by all around rock man, as superintendent or foreman. Twenty years' experience in crushed stone and pulverizing plants, slate, feldspar and graphite, also experienced in road building, excavating and filling. Address A. C. HALL, Poultney, Vt.

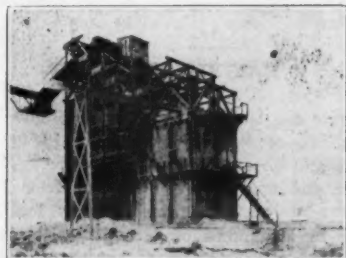
FIFTY CENTS

Is all it would cost to place an ad of 16 words for one insertion in the Classified Department.

WANTED—Position by good practical lime man. Fifteen years' experience. Best of references. East preferred. Address Box 1026, care ROCK PRODUCTS AND BUILDING MATERIALS.

WANTED—Position as superintendent; 20 years' experience erecting and operating stone crushing plants. Reference. Address Box 1024, care ROCK PRODUCTS AND BUILDING MATERIALS.

FOR SALE DISPLACED PLANT



Gravel Plant (see cut), used three months, capacity 1000 yds.
Corliss Engine, 24"x48", 18 ft. pulley.
Crushers, Gates, 8-6-5-3 with elevators and screens.
Well Drills, 1 Loomis, 1 Cyclone.
Rolls, Superior 36x16.

DOLESE & SHEPARD CO.
108 S. La Salle St., Chicago

ARE YOU LOOKING FOR EMPLOYMENT?

A small advertisement in the Employment column will make your wants known and help you to get a position. No difference what kind of a job you want—advertise in ROCK PRODUCTS AND BUILDING MATERIALS, as the paper is read by the people you want to reach. **QUICK RETURNS.**

WANTED—Position by sand-lime brick man of many years' experience. Thorough knowledge of manufacturing. Best of references. Address Box 1012, care ROCK PRODUCTS AND BUILDING MATERIALS.

BUSINESS OPPORTUNITIES

We want an active man to operate good crushed stone plant and invest \$3,000 to \$5,000 in the business, secured. Daily capacity 800 tons. Fine opening for right man. Address Box 1028, care ROCK PRODUCTS AND BUILDING MATERIALS.

Retiring from business, I will sell at a bargain my entire plant for manufacturing building and chimney blocks, sills, caps, etc. F. J. BIPPUS, 420 N. Cicero Ave., Chicago, Ill.

DO YOU WANT TO SELL OR TRADE

Your business? You can do it by laying your proposition before the people who would be interested by advertising in the Classified Department of ROCK PRODUCTS AND BUILDING MATERIALS.

TYPEWRITERS, GUARANTEED PERFECT

On Trial. All Makes.
45 to 60% off. Quality sells itself. We save you money. THE E. W. HORTON CO., Bellevue, Ohio.

Equipment for Sand Lime and Clay Brick Plants For Sale

Six 6'x75' Dryer Cylinders. 150 lbs. steam.
Two Hundred Brick Cars.
One 6'x50' Direct Heat Sand Dryer.
Three 5'x22' Abbe Tube Mills.
Five Boyd 4 Mould Brick Presses.
Ten 8' Stevens-Adamson Mixers.
One 30'x30' Belt Conveyor.
One 24'x50' Belt Conveyor.
Four Bucket Elevators.
One No. 1 Sturtevant Mill.

Complete Plant for sale, at South River, N. J. Also includes Pumps, Boilers, Engines, Rail, Piping, Pulleys, Shafting, Hangers, Crushers, Dump Cars.

Send for complete list and prices, which are exceptionally low.

WICKES BROTHERS

Claremont and West Side Aves. Jersey City, N. J.

Paper Bags
of
Quality.

For All Purposes

The Jaito Company

Boston, Ohio

Strongest, Most Pliable

MACHINERY FOR SALE

FOR SALE AT ATTRACTIVE PRICES.

One Blake No. 3 Jaw 15"x19" crusher (Allis Chalmers) used in experimental work only six weeks.
One Stevenson 8' iron frame clay-working pan used in experimental work only six weeks; also one link belt chain drive and sprocket.
Four 100 H. P. 8" Atlas Tubular boilers with 40' stacks—30" diameter each.
Eight industrial cars 24" gauge, one ton capacity; side dumps; used only one year.
One 7' Stine coal mine fan.
One switching locomotive tender tank.
48 cast iron gates with frames for stone or coal bins, openings 18 1/2"x18 1/2", weight 890 pounds each.
THE COLUMBUS IRON & STEEL CO., Columbus, Ohio.

NOW IS THE TIME TO LOOK AROUND

And see if you have any second-hand machinery, equipment or something you would like to sell or exchange. All you have to do is to place your advertisement in ROCK PRODUCTS AND BUILDING MATERIALS to reach the very people who would be interested. Try it.

FOR SALE—Two second-hand No. 8 Krupp Ball Mills, fully equipped, in excellent condition. SECURITY CEMENT & LIME CO., Hagerstown, Md.

FOR SALE—Best empty cement bag baler, smallest price. Also brick and block machines. Address W. BARTEN, Gordon, Nebr.

A FEW BARGAINS

Hoisting Engine, belted, Allis Chalmers.
Hoisting Engine, 24"x10, D. C. D. D.
Hoisting Engine, 1x10, D. C. D. D.
Crusher, Reliance, 12"x24" jaw.
Crusher, Kennedy, No. 6 Gyratory (Manganese head and concaves).
Crusher, Gates, No. 4, Gyratory.
Crusher, Gates, No. 3, Gyratory.
Crusher, Gates, No. 2, Gyratory (Manganese).
Bucket, Hayward 1 yd. Clam Shell.
Bucket, Hayward 1 yd. Orange Peel.
Derricks, Stiff Leg, 60' boom.
Locomotive, standard gauge, 5x12, Porter.
Locomotive, standard gauge, 24 ton, 14x22.
Locomotive, 38" gauge, 9x14, Porter.
Steam Shovel, 60 ton Marion, 2 1/2 yd. (Bargain).
Steam Shovel, Thew, No. 9 on traction wheels.
Steam Shovel, Thew, No. 2, on trucks.
6 Schmitz Tube Mills, No. 14, No. 16 and No. 18.
3 Hammer Mills, cap. 5 to 10 ton per hour.
1 Negley Slack Line Excavator 24 cu. ft. bucket.
1 complete Crushing Plant No. 5, shafting, belting, etc.
1 Locomotive crane, 10 ton 3/4 yd. Clam Shell Bucket.

We handle a complete line of Quarry, Sand and Gravel and Cement Machinery. Give us an opportunity to submit bids on your requirements. Write

WILLIS SHAW MACHINERY CO.

New York Life Bldg. - CHICAGO, ILL.

RAILS

all sizes—small or large lots. New and relaying. We are familiar with quarry requirements and know just what you need. Frogs, switches, splices and all track accessories. Immediate shipment from stock.

L. B. FOSTER CO.

PARK BUILDING

PITTSBURGH, PA.

IMPORTANT!

We ask the cooperation of our advertising patrons in the matter of getting changes of copy for their ad into this office at an early date.

Advertising copy for issue of the 7th should be mailed us not later than the 25th of the month preceding. Changes of copy for the 22nd issue should be mailed not later than the 10th of each month.

In complying with this request you will permit of ample time in which to have your ad set and receive proof for O. K., or corrections.

The Francis Publishing Company - 537 So. Dearborn St., Chicago, Ill.

Tell 'em you saw it in ROCK PRODUCTS AND BUILDING MATERIALS

CEMENT

SANDUSKY ENLARGES CHICAGO OFFICE.

Through a change in policy with regard to the marketing in Chicago of its Portland and white Portland cements and waterproofing, which formerly were handled through the Consumers Co., new and larger quarters have been established at 748 Otis building. The concern prior to January 1 had its offices in the Chamber of Commerce building.

The Sandusky company will hereafter place its product with the dealers of Chicago, not confining its sale to the Consumers company, as heretofore, although that concern will continue as one of its principal distributing mediums; and because of the nearness of its plants which supply the Chicago market, the company will be in excellent position to give the best of service with regard to the delivery feature. Sandusky mills are located at Dixon, Ill., on the I. C. and C. & N. W. railroads, and at Syracuse, Ind., on the B. & O. railroad. With such delivery conditions and the high quality of its product the Sandusky Portland Cement Co. will undoubtedly receive its share of the Chicago business.

The Chicago office will be in charge of H. D. Jenkins, assisted by W. K. Evans. Mr. Jenkins has been stationed at Chicago for a number of years, while Mr. Evans has covered the Ohio district. Both are young, aggressive and well liked. No cement show would be complete without Messrs. Jenkins and Evans, who are "there" with the hearty handshake in the beautiful Sandusky exhibit with which cement shows have been graced.

REPORTS MOST SUCCESSFUL YEAR.

President C. H. McNider, of the Northwestern States Portland Cement Co., Mason City, Iowa, announced at the recent stockholders' meeting that the company had had the most successful year in its history. A dividend of seven per cent on the preferred stock was paid and provisions were made to make this available semi-annually in future at the rate of three and one-half per cent. A smaller dividend was also paid on the common stock. The concern paid off \$400,000 in bonds during the past year and will expend about \$50,000 during the coming year to enlarge its coal storage sheds and storage warehouses for cement.

The following officers were reelected for the coming year: Charles H. McNider, Mason City, president; A. F. Frudden, Dubuque, vice-president; F. E. Keeler, Mason City, treasurer, and F. G. Ray, Vinton, secretary.

The following directors were elected for the year of 1915: Charles H. McNider and Fred E. Keeler, Mason City; Senator A. F. Frudden, Dubuque; W. H. L. McCourtie, Jackson, Mich.; F. G. Ray, Vinton; C. H. Wagner, Minneapolis; M. J. Scanlink, Minneapolis; M. T. Gunderson, Kenyon, Minn.; C. I. Jones, Lincoln, Neb.; Thomas R. Dinsmore, New York City.

HIGH RECORD FOR MILLEN CONCERN.

The stockholders of the Thomas Millen Co., manufacturers of Portland cement at Janesville, N. Y., met in Syracuse recently, at which time the report for the business done in 1914 was presented and proved to be highly satisfactory. The plant has been operated steadily with a force of about

60 hands. The following directors were elected: Robert Love, E. A. Hunt, L. S. Chapman, W. C. Brayton, A. N. Ellis, M. G. Grossman, H. B. Buell, August Flinck, Jr., and O. D. Burnhans. At a subsequent meeting of the directors Mr. Love was reelected president and general manager; Mr. Hunt, vice-president, and Mr. Chapman, secretary-treasurer.

GILMORE CITY PLANT NEARLY COMPLETED.

The Fort Dodge Portland Cement Co.'s plant at Gilmore City, Iowa, is about ready for operation, having been in course of construction for several years. The plant will probably be put in service about July. The clinker bins for storing materials are not yet completed, but all other buildings have been erected. Three new boilers and a big Corliss engine have been installed in the power house, which has been enlarged and will furnish 1,250 horsepower. The concern has carried on a successful rock-crushing business during the past two years, two annual dividends of seven per cent having been declared from this department of the business.

M. J. Nicholson, president, in discussing the affairs of the concern, said that it is in the best of financial condition. While the work of promotion and construction has been slow by the sane and conservative means taken, yet no financial condition would work an absolute hardship on the company. No debts have been incurred and the capitalization of stock has been kept down to the valuation of the property of the company. The concern is capitalized at \$750,000.

PORTLAND CEMENT PRODUCTION IN 1914.

According to preliminary returns from all the operating mills in the United States except one it is estimated by Ernest F. Burchard, of the United States Geological Survey, that the quantity of Portland cement manufactured in the United States in 1914 was approximately 88,514,000 barrels, compared with 92,097,131 barrels in 1913, a decrease of about 3,583,000 barrels, or nearly four per cent. The estimated shipments of Portland cement during 1914 were 86,715,000 barrels, compared with 88,689,377 barrels in 1913, a decrease of about 1,975,000 barrels, or 2.2 per cent. On account of the surplus of production over shipments stocks of cement at the mills apparently increased more than 14 per cent.

RAILROAD FURNISHES NICE ORDERS.

C. A. Irvin, general manager of the International Portland Cement Co., in Spokane (Wash.) valley, has secured an order for 50,000 barrels of cement from the Northern Pacific Railroad and will resume operations early this month. The plant is now closed for overhauling. The company is building a new tug on Lake Pend Oreille to bring the raw material from the quarries, opposite Bayview. The contract will keep the plant busy for 30 days at the rate of 1,600 barrels per day, its capacity. The Lehigh Portland Cement Co., with a plant at Metaline Falls, and the Trident mill at Trident, Mont., received similar orders.

NEW YORK CEMENT PRICES DROP.

New York, Jan. 4.—There has been a change downward in Portland cement prices from the \$1.58 level that has nominally prevailed for more than a year. The general quotation made by the majority of agents here is now \$1.47. Some companies are even shading this price.

This brings the Lehigh Valley mill base down to 85 cents, approximately. Heretofore it has been 90 cents. Under the old price Portland cement at Jersey City was \$1.46 on a fictitious lighterage basis of 12 cents making, the price here \$1.58. The lighterage basis has been cut to six cents, so that the reduction normally would have made the quotation sag to \$1.52. But there was a general reduction in the Lehigh district of five cents additional, which has brought the current price down to \$1.47.

Portland cement freightage costs 80 cents a ton. Figuring five barrels to a ton, this brings the price per barrel down to 16 cents on a 400-pound barrel basis. But the average weight allowance for Portland cement barrels is 380 pounds, which normally would make the freight allowance for cement transportation 15.2 cents. Some of the companies are taking off the extra two-tenths of a cent and making the rate a flat 15 cents and giving the trade the benefit of the saving. One man said:

"The only way I can account for it on the grounds of good business policy is that they may have an idea that the trade will get some conception of the good times that are expected to come early in this year, and thereby hope to gain an inside bulge on those who will be inclined to stock up a little in anticipation of the hour when the pendulum will swing the other way."

MAY REMOVE PLANT.

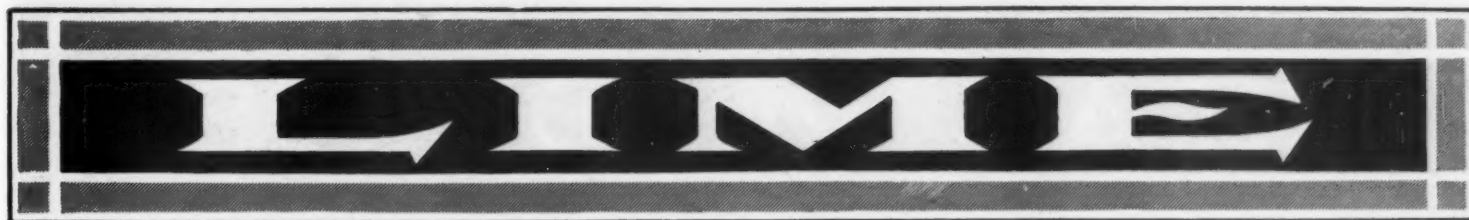
Rumors are current that the Riverside Portland Cement Co. has purchased about 1,000 acres of cement and limerock land in the Springville, Cal., district and may remove its plant from Riverside to the new location. The company has been involved in a number of lawsuits with owners of orange groves, who claimed that the dust from the plant settled on the fruit and caused damage to it. There is no orchard within the immediate vicinity of the deposits purchased by the company. It is also stated that an extension of the Porterville Northeastern railroad to the site of the new plant will be constructed.

NEW CEMENT PLANT ON VANCOUVER ISLAND.

A large cement company, known as the Associated Cement Co., of Canada, has been organized to start a large plant near Victoria, on Vancouver Island. The official Dominion Gazette announces that a company has been formed with \$2,000,000 capital, largely subscribed in Toronto. It is an enlargement of the concern known as the Bamberton Co.

SEABOARD PLANT SOLD.

The Seaboard Portland cement plant at Alsen, N. Y., is reported to have been sold by the receivers to Peter T. Watt, of Lancaster, Pa., and it is expected that the plant will be finished in the spring and put in operation. More than a million dollars has been expended on the property.



Attend the Washington Meeting

The annual meeting of the National Lime Manufacturers' Association will be held at the Hotel Willard, Washington, D. C., on Feb. 3 and 4. It is earnestly hoped that every member of the association will make it an occasion of the first importance to attend the Washington meeting because there will be matters brought before this convention of a most vital concern to the future conduct of the lime industry, the distribution of the products of the lime kiln and their more intelligent specification in concrete mixtures, in plastering mixtures and in many other branches that bear upon the money-making power of the investment in a lime plant.

The laboratories of the United States Bureau of Standards is located at Washington. Many of the members will recall the cordial invitation which has been repeatedly extended by Dr. Stratton, chief of the Bureau of Standards, for those interested in the work of technical research to visit that admirable institution. The occasion of the meeting at Washington will make it possible to accept this invitation. Dr. Stratton personally, or possibly those members of the staff whose work has been more particularly devoted to lime, will attend and take an active part in the lime meeting. It is up to the membership entirely to make this meeting the greatest event in the history of the Lime Manufacturers' Association.

In this connection the convention committee of the association has decided to extend the invitation to every lime producer in the country, whether he has ever joined and taken part in the national association or not. The work that has been done, and is being done by the National association is naturally of deepest interest to the members who have labored faithfully all these years and the wonderful progress that has been achieved in the industry is solely creditable to the concerted association efforts. However, they are not selfish but broad-minded enough to invite all of those who have long stood aloof from the labor and cost of the only progressive influence that the industry has ever had, and invite them to come and participate in and benefit by the work that has been done and is being done by the association. All of these are now cordially invited to join in the work.

The year 1914 was an exceptionally active period. The hydrate manufacturers of the country, practically every one of whom is a member of the National association, have organized a branch of the National for the purpose of advancing the uses and sale of hydrated lime and to accumulate a better knowledge of the possibilities of this wonderful product which has practically revolutionized the lime industry in the past 10 or 12 years.

At the time of going to press the program for the Washington meeting was still incomplete. However, a number of live wire papers have been promised and there will be afforded an occasion for the development by discussion of methods and results obtained by incorporating hydrated lime in Portland cement mixtures and in plaster and mortar. The work in progress at the Bureau of Standards in this line may be inspected and will be fully explained in a practical way by the gentleman in charge of this work.

It is desirable that some practical work be developed by the lime manufacturers acting in con-

cert in the matter of preparing a practical and more intelligent lime specification for the instruction of architects than anything that has been at their disposal up to the present time. It is a fact that lime specifications, as written by the architects is still phrased in about the same words that were used throughout Christendom in the year of our Lord, 1491, which was the year before Columbus discovered America and while he was still importing Queen Isabella to pawn her ear-rings to buy him a boat.

The architects are not aware of the meaning in the technique of their profession of the progress that has been made in recent years by our National organization. They are a very intelligent, and consequently conservative class of men and the specifications drawn for their instruction and guidance must be such a one as they will recognize to be of indispensable value to their own store of knowledge upon the subject of lime value in concrete mixtures, plastering mortars, wall coatings, etc., which have always been to them, on account of the meager, incomplete and contradictory information, of all past time, the most indistinct and consequently unsatisfactory portions of their otherwise exact specifications. If we can produce something that is co-operative and helpful to the architects in this line, and is drawn in the right kind of language, it will be accepted and without a doubt result in the specifications of a great deal more lime than has ever yet been used because of the confidence of securing intelligent results from the use of it. The architects have really been forced to place their dependence in the experience and judgment of the man at the mortar box with the hoe for the results that come from the use of lime and they are ready for something better, if it can be handed to them so that they recognize it.

President Carson is now working on the finishing touches of the program and we hope to have the topic completed in time for our issue of Jan. 22.

Don't forget that every lime burner has an interest in the coming convention, whether he knows it or not, and is cordially invited to come and get "hisn."

New York Lime Market.

New York, Jan. 4.—With very little business moving in this district lime is standing remarkably firm in its prices. Kilns are running on outputs variously estimated in the district at from 35 to 55 per cent.

Asked as to what effect upon the present quotation of \$1.55 the 5 per cent freight rate increase would have, several leading lime men here said that it was too early yet to determine the point.

"The railroads have just filed their schedules with the Interstate Commerce Commission," said T. L. Waldie, of the Palmer Lime & Cement Co., "and we have, of course, not had an opportunity of studying them. I understand, however, that these schedules are to go into effect on all Eastern railroads on Jan. 15, if they are approved by the commission, and that it probably will not be much before Feb. 1 that the consignees of lime shipped from one state to another will take up the load. Lime shipped from one state into another will have

to pay the increase, but shipments originating in one state and having its destination there will be exempt.

"Personally, I look for a fair year, but a good deal depends upon the war's effect upon money. The agricultural sections will probably be big users of lime next season because of the late fall drought which prevented extensive sowing of winter wheat. There is little in the ground now and this means that farmers will rush the season and try to overcome the fall handicap. They will enrich their land to make it as fertile as possible, and this will require considerable lime."

Market Places of Industry.

The Chicago Board of Trade is the greatest grain market in the world. The New York Stock Exchange is the financial center of America. Such centers are the necessary mediums for information, prices, buying and selling, etc. And it is an established and necessary fact that in each industry there is some market place where the industry as a whole can turn, as the arbitrator of its thought and the market place for its goods.

In the industrial world the trade journals represent the market place for the news and achievements of the various factors. Here the reader can obtain all the live information concerning his particular business, study new appliances, the conditions of supply and demand, etc.—and he realizes that to be in business as a business man he must read his trade paper. This has been recently illustrated at the National Trade Press Federation, when such men as John H. Willys, president of the Willys-Overland Co., spoke on the great value of the trade press.

And such a market place of information is always a great market place for advertisers to obtain valuable publicity and certain results. For, as Chas. L. Benjamin, advertising manager of the Cutler-Hammer Mfg. Co., recently stated: "Surely the quintessence of advertising efficiency is found when we find, as we find in the business press, a concentrated circulation which expressed in figures may be multiplied by thousands and still fall short of indicating the actual number of persons who will be ultimately influenced by such advertising."

As a specific example of the advertising value of the trade journals, the classified department is a noteworthy factor. This department illustrates the pulse of the trade, its wants and desires, and is always teeming with live opportunities. Here each man in the trade is able to quickly dispose of any surplus equipment or stock, or any company can advertise for a new manager or other "help," and the response is immediate.

The market places of commerce always attract the eye of the thoughtful business man.

NEW INCORPORATIONS.

Baker Lime Co., Baker, W. Va.; capital, \$5,000.

International Lime Co., Ltd., care of W. K. McKeown, 145 St. James street, Montreal, Quebec; capital, \$200,000; manufacture lime, plaster and by-products.

Chemical Lime & Sand Co., Huntington, W. Va.; capital, \$100,000.

Oakland Lime & Stone Co., care of Chas. F. Hammond, Second street, Oakland, Md.; capital, \$25,000.

CLAY PRODUCTS

CLAY WORKERS WILL PROBE FREIGHT RATES.

The winter meeting of the New Jersey Clay Workers' Association was held in New Brunswick, N. J., Dec. 30-31. At the business session the traffic committee requested the association to submit to the committee data tending to show inequalities in freight rates between imported and domestic materials, and facts regarding anything else about freight rates that appears unjust to the shippers.

A committee was appointed to go into this matter. The members are: D. R. Edgar, of Edgar Brothers, Metuchen; Abel Hansen, of the Perth Amboy Pottery Co., Perth Amboy; Howard Valentine, of the R. H. & H. Valentine Co., Woodbridge; Hubert Somers, of the Somers Brick Co., Atlantic City; and J. T. Hibbs, of the J. W. Paxson Co., Philadelphia, Pa.

COSTLY FIRE AT SEWER PIPE PLANT.

Fire of unknown origin totally destroyed the plant of the Southern Sewer Pipe Co., North Birmingham, Ala., on Dec. 6, causing a loss estimated at over \$100,000, which is partly covered by insurance. Two hundred employees are thrown out of work by the fire.

James A. Millsom, manager of the company issued the following statement: "The main building of our plant, 500 by 80 feet and three stories high, was entirely destroyed by a fire of as yet unknown origin.

"As soon as the debris can be cleared away the destroyed building will be replaced; in fact the whole plant will be completely rebuilt on a larger scale and with an increased output.

"The only thing destroyed by the fire is the main building, containing 100,000 feet of floor space, and the machine shops. The 26 kilns of the company were not damaged by the fire. Future buildings erected by this company will be of a fire-proof character. The fire will not delay the filling of our orders or contracts."

TO MAKE NEW SHALE BRICK.

David Stuempfle's Sons, who have a large brick plant in South Williamsport, Pa., will in a short time place on the market a new shale brick. It is the purpose of the firm to open a quarry in the mountains just east of Sulphur Springs, and take out certain shale deposits which will be manufactured into shale brick, after being treated in specially installed machinery. While work on the installation of the new machinery and the opening of the quarries will be begun in a week or two, it is not expected that the new product will be ready for shipment much before the first of March. The new brick will be red in color and will resemble brick now put out by the Stuempfle firm.

ILLINOIS BRICK DOES WELL.

The Illinois Brick Co., Chicago, Ill., according to William Schlake, president of the company, has had a fairly prosperous year and will be able to show earnings that will compare favorably with those of the preceding year.

"The plants of the company," said Mr. Schlake,

"are not in operation at present, having been closed for several weeks, because of the large amount of stock on hand. However, it is the intention to resume operation shortly after the first of the year." Mr. Schlake is very optimistic regarding the future business in this line, and is of the opinion that building operations this spring will be on a larger scale than for some time past.

The enactment of the forest preserve law will also be beneficial, inasmuch as it will cause considerable road building and other public work of a similar nature.

NEW INCORPORATIONS.

Glenwood Brick & Tile Works, Glenwood, Ark.; capital, \$20,000; P. S. Edwards and others; to install stiff mud and dry process plant.

El Reno Brick Co., El Reno, Okla.; Henry Schaefer and others.

Composite Brick Co.; manufacture bricks, concrete, etc., capital, \$100,000; incorporators, S. N. Widdup, S. H. Smart, A. A. Meyer, New York City.

Empire Kaolin Co., New York City; deal in clay or kaolin mines; \$20,000; Luther Martin, 14 East 72d street, New York; Frederick L. Medbery, Max L. Waeber, New York.

The Wooster Shale Brick Co., Wooster, Ohio; increased capital stock from \$150,000 to \$250,000, and will make some additions to its plant at an early date.

Ajax Brick Co., Detroit, Mich., has increased its capital stock from \$150,000 to \$200,000.

Mount Eaton Clay Co., Easton, Pa.; capital \$20,000; Rudolph J. Werzmillier, Saylorsville.

Soldier Clay & Asphalt Co., Soldier, Ky.; capital, \$55,000; Alva Sanders, S. M. Bradley and W. B. Whit.

The Adamant Manufacturing Co., Sacramento, Cal.; to engage in the manufacture of brick, deal in stone, rock and other building materials; capital stock, \$150,000; John Trede, C. E. Carlson, Charles King and B. Langridge of Sacramento and J. P. Brown of Berkeley, Cal.

The Mt. Eaton Clay Co., of Easton, Pa., capital \$20,000, has been organized by William J. Kirkpatrick of that place, John H. Richards, of Jersey City, N. J., and Rudolf J. Wetzmillier, of Saylorsville, Pa., to make brick.

William Kelley, owner of the Philadelphia Brick Works, Philadelphia, Pa., has purchased a tract of land at Deveraux street and Oxford pike from George T. Sale.

WATER TEST OF CLAY PRODUCTS.

To determine the amount of water a product of clay will absorb, weigh the product and immerse it in water for 24 hours. A balance scale, such as is used in a scientific laboratory, will provide a simple basis of calculations, having the gram as a unit. Remove the product and thoroughly dry its surface, then reweigh. Subtract the weight of the product dry from that after immersion, which will give the weight of the water absorbed. Divide the weight of the water absorbed by the weight of the product dry, which will give the percentage of pore space in the product. Pound-and-ounce-scales may be used if very sensitive, the ounce being the weight unit of the calculation.

News From the Field.

The Marion Brick Works, one mile east of Montezuma, Ind., has closed for repairs and will not open for about two weeks. The company has been in the hands of a receiver for some time, but before stopping work under the management of the court and the receiver the plant showed a profit.

The Thurber Brick Co., Thurber, Tex., has reopened its plant with an added equipment. The plant had been out of operation for a year. Large quantities of vertical fiber paving brick are now being turned out. The Thurber company also will begin the manufacture of building brick within a short time. At an early date the company will use natural gas from the Thurber fields as fuel.

Completing the large contract for 2,000,000 brick, used in the new Southern Pacific depot at Los Angeles, the Whittier (Cal.) Brick Co. has gone out of business. The large number of brick in the yards has been turned over to the Bar Lumber Co. and the Whittier Lumber Co.

The Burton Townsend Brick & Fuel Supply Co., Zanesville, Ohio, has plans prepared for an addition to its plant.

A thief on Dec. 19 stole the pay of 50 employees of the Towie Brick Co., Cleveland, Ohio, totaling \$600, and escaped. The money, in envelopes ready for distribution, was taken from the office when the cashier stepped out for a moment.

A movement is under way to reorganize the Westfield Brick Co., Westfield, Mass., which recently went into bankruptcy, and continue the business at Middle Farms.

It is reported that Chas. A. Hoshour, of the Cleveland (Ohio) Vitrified Brick Co., is planning to establish a plant at Clinton, Okla.

Mays Landing Brick Works, Atlantic City, N. J., have closed down for the winter months. The works have had a most successful season and have filled several large orders, including several million brick for the new Traymore hotel, Atlantic City. Supt. Myers expects the works will reopen early in the spring.

The Steelton and Harrisburg Brick Co., Harrisburg, Pa., will liquidate its stock on the first of the year, it is understood, as the Steelton plant has been closed for some weeks. The company's reason for quitting business is said to be the exhaustion of the clay banks from which it got clay for a high grade of brick.

The Waverly Brick and Coal Co., Kansas City, Mo., has filed a statement showing increase of capital stock from \$300,000 to \$600,000.

The Hydraulic Pressed Brick Co., of Cleveland, Ohio, has started to spend \$50,000 on improvements to its plant at Ironspot, near Zanesville, Ohio. This will increase its capacity fifty per cent.

NEW COMPANY MAKING IMPROVEMENTS.

The Parkersburg Shale Brick Co., Parkersburg, W. Va., which recently took over the plant of the Parkersburg Brick Works, has been making extensive improvements about the plant with a view of enlarging its capacity for the manufacture of building brick and also a plant for the manufacture of shale paving brick. A tramway has been constructed to the shale bed and the shale will be conveyed in tram cars. The plant has been equipped with new machinery, including a 75 horsepower engine.

With the QUARRIES

Studying the Cost of Hauling

In the paper given by Prof. T. R. Agg before the American Road Congress upon the topic of "How to Select Machinery for Highway Construction," he dwells principally upon the main factor of costs in the construction of every good road, namely, the hauling of the road material from the crusher, or the railroad siding, as the case may be, to the job. While his assumption of initial costs may or may not be correct according to the local surroundings of the work, there is no doubt that the professor has presented just about a perfect equation for the guidance of the man who is in doubt as to just how far he can invest in equipment to get together with the maximum efficiency at the minimum cost.

For the road contractor to apply this method of balancing his requirements with the particular job that he has in his hand, he must find the cost per hour of operating his teams, the cost per hour of operating motor trucks, the cost per hour of operating a traction outfit and the cost per hour of operating an industrial railway, together with the initial cost of each and the value that each of them would represent when disposed of for cash at the completion of the job. The net cost of the outfit in working order on the job, determined in this way, must be divided by the total number of tons to be hauled and added to the operating results which the professor obtained from his equation. Each of these items will vary with the local conditions of wages for the men, the price of feed for the teams, the price of fuel for the machines, with the estimated cost of repairs and maintenance while the work proceeds based upon experience or upon the guaranteed estimate of another who is sufficiently expert to be relied upon to quote such variables at correct cost figures.

The value of the factor T will also require a minute detailed analysis and computation which must include the cost of the erection of loading bins, hoppers or chutes, together with their elevators, conveyors or other equipment for each kind of material that is handled from the cars to the hauling outfit.

The cost of crushed rock at the crusher or siding, or the cost of gravel at the pit or at siding, the cost of binder, top-finish, cement, brick, or other material, are constant factors, and with a reasonable margin allowance the labor bill of the actual road construction is also a constant factor.

Thus we see that the hauling of material contains all of the variables that are liable to tumble in on the contractor after the work is started and lap up the profits with one fell swoop, even if it does not plunge him into an abyss of losses from which there is no way to recover.

The total tonnage of each of the items to be hauled, the nature of the delivery, including the careful study of the length of the side-tracks and its elevation or depression at the point of loading are all items which must be taken into consideration by the contractor who wants to know exactly where he is "at" before he starts his operations.

In rural communities labor and teams are usually scarce. They are unreliable and inefficient, so that 50 per cent of their possible performance is a very high average to place upon country teams in the hands of country drivers, for both driver

and team have a very independent habit of getting tired toward evening and dropping out of the job entirely when a shower of a few minutes occurs. And then the allurements of the harvest field comes along for both man and team just about the time the contractor wants to push his work toward completion. It will be found in nearly every case, that the dependability of machinery for the all-important hauling proposition will earn profits by making the work total up to a figure that looks very much like the original calculation. Professor Agg's method of determining the selection of equipment by a comparison of the cost in his own words are as follows:

Methods of Hauling Road Materials.

Those engaged in constructing roads and pavements have long realized what a large item of cost is incurred in hauling materials and some discussion of the methods available is pertinent to this paper. Many factors involved in determining the cost of hauling are variable for work in different localities but for a given piece of work the amount of each of these can usually be selected with reasonable accuracy, and the economy of various methods thus compared.

The cost of hauling varies with the following factors:

1. Length of haul.
2. Rate of travel of the outfit used.
3. Amount of time lost at cars while loading and at road while unloading.
4. Amount of time lost on account of bad roads.
5. Capacity of the outfit per trip.
6. Cost of operation of the outfit.

Length of Haul.—Length of haul for a given piece of work is, of course, the same no matter what method of hauling is used.

Rate of Travel.—The rate of travel varies somewhat between outfits of the same kind and yet there is a value that is reasonably near an average for all outfits of a type. For teams $2\frac{1}{2}$ miles per hour, traction outfits 3 miles per hour, motor trucks 10 miles per hour, and for the industrial railway 10 miles per hour may be taken as typical speeds, assuming half the distance is traveled empty and half loaded.

Lost Time.—The amount of time lost at cars depends upon the method of loading the outfit. If hand shoveling is resorted to, the time will be relatively long, but extra units of the outfit may be loaded while the others are on the road. This is advisable for all classes of hauling outfits and is a necessity in traction hauling and with the industrial railway. Bins at the sidings with capacity for a full load for the outfit may be used instead of extra units of equipment and are a necessity when the motor truck is used. For team hauling the loading chute may be employed instead of extra wagons. In any case time lost at the cars is expensive, especially on short hauls, and should be eliminated as far as possible.

Records of loss of time in loading and in unloading are exceedingly diverse, but the following amounts lost per trip are near enough the average to give comparable results; with team hauling 18 minutes, motor trucks (loaded from bins or hoppers), 6 minutes; traction outfits, 30 minutes, and with the industrial railway, 30 minutes.

Time lost due to the condition of the road cannot be evaluated in a discussion like this because it varies throughout the season, differs with the locality and with the kinds of roads over which the hauling must be done. This must be determined by a study of the locality.

The capacities of these outfits per trip are also exceedingly diverse and perhaps no particular one is typical, but equipment of the following capacities are in common use and will serve as examples: Wagons for team hauling, 2 tons; motor trucks, 5 tons; traction outfits, 15 tons; industrial railway trains, 20 tons.

The cost of operation of each of these outfits will vary with the skill of the superintendent, the character of the operator, the kind of weather encountered, and the nature of the road that is used. Cost of operation should include the following items; interest on investment, depreciation on outfit, maintenance of outfit, fuel, oil and other supplies used and labor cost of operation.

These various items must be evaluated in estimating the cost per hour for operation, and a careful study of the subject has led to the assignment of the following values. If any inequalities exist here it will, of course, change the entire relation, but the method of comparing costs of hauling as outlined is applicable and that is the principal object of this discussion. Cost of operation per hour for teams, \$0.50; for motor truck, \$2.00; for traction outfit, \$3.00; for industrial railway, \$4.00.

Knowing the relation that exists between these various factors that enter into cost of hauling, an equation may be written to show the cost per ton with the values as assumed, which is as follows:

$$C = \frac{rd}{us} + \frac{Tr}{u}$$

where

$$C = \text{cost per ton for a length of haul} = \frac{rd}{us} + \frac{Tr}{u}$$

d = distance in miles traveled per round trip.

u = number of tons hauled per trip.

s = speed of vehicle in miles per hour.

T = time lost loading plus time lost unloading.

r = cost of operation in dollars per hour.

If, in the general expression given above, we insert the values of the various factors for each method of hauling we get the unit cost of hauling

by that method for any length of haul —. These

are as follows:

$$C = 0.1d + 0.075, \text{ for team hauling.}$$

$$C = 0.04d + 0.04, \text{ for motor truck hauling.}$$

$$C = 0.066d + 0.10, \text{ for traction hauling.}$$

$$C = 0.02d + 0.10, \text{ for industrial railway hauling.}$$

INSTALLING MODERN CRUSHING PLANT.

The Pfeiffer Stone Co., Pfeiffer, near Batesville, Ark., is at present installing a modern rock-crushing plant, and will soon be in a position to supply crushed stone for concrete work in any sizes desired. From 30 to 40 men are constantly employed in the quarry and about the mill. The present quarry face is about 300 feet long by 40 feet high and five beds are being worked. Several other beds will become available when the face is advanced further into the hillside.

Instructions of New York Commission.

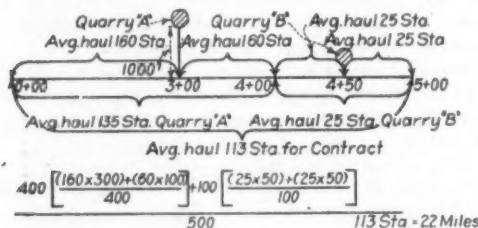
The New York State Highway Commission in one of its pamphlets of instructions to road contractors contains the following:

The average haul must be computed by the method of weighted values. Thus, if all stone is estimated to be hauled from one quarry or from one railroad siding, multiply the average haul from the source of supply in stations, for each end of the road, by the length, in stations, of that portion of the road covered by this average haul; add together the two products thus obtained and divide by the total length, in stations, of the road to be built from this source of supply. The result will be the average haul for the entire road, in stations.

If the stone for the road is to be hauled from more than one quarry or siding, the average haul should be computed in the same general manner

Method of Determining Average Haul From Several Quarries.

as when a single source of supply is used. The portions of the road estimated to be built from each source of supply must be carefully considered. On a comparatively level road, this length would depend entirely on the relative locations of the sources



of supply. On a road with heavy grades the portion to be served from each source of supply will depend largely on the grades, avoiding, if possible, a heavy uphill haul. Having gotten the average haul from each source of supply for the portion to be built from it, in the same manner as when a single source of supply is used, proceed as follows:

Multiply the average haul from each source of supply by the length, in stations, of the portion of the road to be built from this source of supply. Add together the products thus obtained and divide by the total length of the road in stations. The result will be the average haul in stations.

The price of transferring broken stone from cars or boats to wagons should be estimated at from 15 cents to 20 cents per cubic yard. If the stone is quarried on the road, and loaded from bins directly into the wagons, no price should be estimated for transfer to wagons.

The cost per cubic yard mile haul should run from 30 cents to 35 cents when estimating team haul, on the basis of a day's team travel of 20 miles, and loads of 1½ cubic yards.

Kansas Crushers Are Inactive.

Kansas City, Mo., Jan. 4.—The crushed rock market, if there is such a thing, now is very slim, due, naturally, to the lack of building operations. Most of the crushers have been idle for the past week on account of the excessive amount of moisture. All of the crushers worked when the weather was very cold and the ground was covered with snow, but now the snow is commencing to thaw and work is impossible. However, the dealers all feel confident that business will open up soon, and every indication points that way. The city will probably start some paving operations shortly after the first of the year that will require an abundance of crushed stone. Sewer work and some buildings that have been started are already demanding considerable materials. This indication of

a reviving trade is received by the stone men as a ray of hope, and many of them are taking on their old optimistic attitude of looking at things, which was dropped several weeks ago.

ANNOUNCEMENT OF OHIO QUARRYMEN'S CONVENTION.

Secretary Frank D. Lyon has formally announced the annual convention of the Inter-State Stone Manufacturers' Association to take place at the Virginia hotel, Columbus, Ohio, Jan. 14 and 15.

On the afternoon of the 14th at 2 o'clock, a business meeting for the members of the association, only, is to be held at the office of the secretary, 1014 Hartman building.

At 10 o'clock on the morning of Friday, the 15th, and at 2 o'clock on the afternoon of the same day, public meetings will be held in the Assembly room of the Virginia hotel, at which time lectures will be given on the various types of macadam highway construction by experts, including Col. E. A. Stevens, commissioner of highways, New Jersey; Major W. W. Crosby, formerly state highway commissioner of Maryland; George C. Diehl, county superintendent of Erie county, New York, and other noted authorities.

It is the purpose of this organization to make these two sessions of great educational value to state, county and other officials.

The annual banquet will be held on the evening of the 15th in the Rose room of the Virginia hotel, at 7:30 p. m.

INDIANA ASSOCIATION TO MEET.

The Committee on Arrangements has set Jan. 28-29 as the dates for the annual meeting of the Indiana Crushed Stone Association. A banquet will be held, as in previous years. Secretary F. W. Connell will issue detailed instructions as to the meeting at a later date. It is felt in all quarters that the 1915 program will contain features of great benefit in respect of the promotion of many products and general points of information in the operation of quarries.

The yearly get-together is always looked forward to by the members of the Indiana Association, because it means an assemblage of the live wires of the industry and a great deal of information and data is always picked up by the visiting delegates, in addition to the hearty good-fellowship which is always present at the festive board.

The members of the Indiana Crushed Stone Association have cooperated in a commendable manner during the past year with the efforts of the officials, and some good results have accrued.

NEW INCORPORATIONS.

The Campbell County Cutting, Grinding & Crushing Co., Oak Grove, Ky.; capital, \$1,000; incorporators: Alfred Eisen, John Sprauer and Joseph Herrington, Jr.

Western Quarries Co., Chicago; capital, \$5,000; Norman H. Pritchard and others.

Western Quarries Co., Chicago; \$5,000; purchase, sale and quarrying of stone and other minerals; Norman H. Pritchard, Wm. P. MacCracken and M. B. Kroh.

Island Slag Co., care Wickwire Steel Co., River Road, Buffalo, N. Y., has been incorporated with capital of \$60,000, to erect a plant for the manufacture of cement from furnace slag.

The Washington Paving Co., of Tacoma, Wash., has bought from the Hodson-Fenaughty Co., of Portland, Ore., an Austin tandem, gas-driven road roller.

Purcell Brothers, Brooklyn; general quarrying and construction; \$5,000; directors, Michael J. Purcell, George F. Purcell and Edward W. Purcell; attorney, J. V. Rooney, No. 320 Broadway.

Sugar Factories Using Local Limestone.

The seven beet-sugar factories of Southern California are using 10 carloads of lime a day from the Baxter lime rock quarry in San Bernardino county, which totals between 65,000 and 70,000 tons of high-grade lime rock to be shipped from that quarry to the sugar factories and used by them in the process of refining sugar in the next season.

Prior to the arrangement for using the Baxter lime rock deposit the factories were forced to ship their lime rock from Arizona and from the northern part of the state at greater expense.

The Baxter quarry is estimated to contain 20,000,000 tons of lime rock above the level of the ground. The Sugar Lime Rock Co., which is composed of representatives of the Anaheim Sugar Co., of Anaheim; the Santa Ana Co-operative Sugar Co., of Santa Ana; the Holly Sugar Co., of Long Beach; the Southern California Sugar Co., of Santa Ana; the American Beet Sugar Co., at Oxnard and Chino, and the Los Alamitos Sugar Co., of Los Alamitos, will use the Baxter product. These concerns, however, only have right on a small portion of the property. The stone which is being quarried at Baxter is 98 per cent pure and the quarry has been pronounced one of the most valuable in existence. A little model city has been built at Baxter, where the 75 men employed in the quarry live and enjoy every convenience. The quarry is now in full operation.

Kenton Stone Co., Kenton, Ohio, has increased its capital from \$50,000 to \$100,000.

Newton County Stone Co., of Kentland, Ind., has increased its capital stock from \$25,000 to \$40,000.

Notice has been filed of the preliminary dissolution of the Terre Haute Stone Works Co., Terre Haute, Ind.

W. T. Pyne Mill & Supply Co., 1301 W. Main street, Louisville, Ky., has taken over the plant of the Peter Melcher Stone Co., and will improve it.

Oakland Lime & Stone Co., Oakland, Maryland, has been incorporated with a capital of \$25,000. Chas. F. Hammond, Oakland, and others, are the incorporators.

Johnson & Sullivan, of Auburn, Cal., report that they have sold their magnesite deposits at Towle, Cal., to an Eastern syndicate for a price approximating \$150,000, and that the first payment on the purchase price has been made.

Powder Merger Formed by Independent Concerns.

The Aetna Powder Co., of Chicago, long one of the leading independent explosive concerns in the country, has become part of a newly organized merger of several companies, according to an announcement made Jan. 6.

The Aetna Explosive Co., 2 Rector street, New York, is the name of the latest rival of the Du Ponts. Included among the concerns it has absorbed is the Miami Powder Co. The new corporation also takes over the Aetna company's two plants at Thebes, Ill., the dynamite mills at Aetna, Ind., and factories at Xenia and Goes, Ohio.

In addition it acquires the entire town of Aetna, three miles east of Gary, Ind., and 650 acres of land. It is said that in the future the Aetna plant also will make chemicals.

Addison G. Fay and Frank Lewis, the retiring president and secretary of the Aetna Powder Co., which has offices in the Tribune building, will not be identified with the new corporation.

SAND and GRAVEL

Sand for Use in Cement Motar and Concrete

BY E. S. LARNED, C. E.*

How are we to determine the suitability of sand for use in cement construction? By its appearance, rubbing it between the hands to determine its "sharpness" and freedom from dirt and the apparent absence of loam, clay and "other foreign material?" Well, we must admit that this has been a very general practice, but those of us who have had most of it to do have long since refrained from expressing any positive or settled opinion as a result of such examination. Many instances could be cited of sands almost identical in appearance that when tested would give results 100 per cent at variance with each other, one being acceptable, and the other entirely unfit for the use intended. In this connection the writer quotes the following passage from his paper on sands given the National Association of Cement Users at Buffalo in the winter of 1907-8:

"The important part sand plays in concrete work is not generally recognized, and even among contractors and engineers who have at some time experienced trouble directly traceable to the sand used, we find a tendency to depend too much at times upon superficial examination.

"One has only to see concrete, of proper proportions and good materials, such as 1 cement to 3 sand and 5 or 6 stone, mixed, to marvel at the wonderful binding qualities of the cement when he observes this mixture at the end of a few days; he will note, however, that the cement must be spread out pretty thin to fill the interstices of the sand and coat the surfaces of the individual grains three times in volume the amount of cement used. If the sand, however, be poor by reason of its geologic origin, mineral composition or decomposition, or because of excessive fineness, or its content of fine material of a non-siliceous nature, then it is useless to expect good results of such proportions as 3 of sand to 1 of cement, and only careful analysis and test of the sand will enable us to judge as to whether it should be used at all, and if so, in what proportions to attain the desired results within the required working limits of seven or 28 days."

Sand is added to cement primarily (and almost entirely) for reasons of economy: how can this economy best be obtained if not by a thorough knowledge of its real net value as a mortar ingredient? Given a strength requirement in mortar of 150 lb. tension at seven days; one sand in proportion of 1 cement to 2 sand just develops this strength; another sand (same locality) in proportion of 1 cement to 3 sand gives equal or greater strength; the saving in cement (per cubic yard of concrete) in the latter mixture is over one-third of a barrel. It may be, and some cases could be cited, that some poor sands would, in time, produce a sufficiently strong mortar, if properly mixed with the cement, and having favorable exposure conditions; but do we know this of the sand in question? Can we afford to wait for the necessary results? Will the structure in the meanwhile be stressed beyond its acquired strength with the probability of injury, serious loss, or even complete failure?

Chemical and mineralogical analyses of sand are seldom called for or necessary, and even when made it is difficult, except in extreme cases, to form definite or positive conclusions, as the evidence is often conflicting. Experience suggests that tests and practical results in ordinary sands are affected rather more by their physical condition than by

their chemical composition. The granulometric composition of sand is, of course, important, but valueless alone, without tensile or compressive tests, and furthermore there is a marked variable in this determination in the average New England commercial sand obtained from gravel banks, owing to faulty character of the formation, affecting greatly the results of small samples. At present, comparative tensile tests of mortars offer the best indications of the value of sand; a normal cement (or preferably the brand proposed for use) is used with the commercial sand in proportions of 1 cement to 3 sand by weight, the briquettes being of normal consistency as determined by the Standard Cement Specification, and tested at the seven and 28-day periods; the same sample of cement is also tested with the standard laboratory sand (Ottawa) in the same manner, for comparative results.

A sound, clean and well-graded siliceous sand will give as good or better results than the Standard sand, owing to the uniformity in the size of the grain in the Standard. The commercial sand should develop at least 70 per cent of the strength of the

(Continued on page 36.)

New York Market Firm.

New York, Jan. 4.—There is not much demand for either sand or gravel in this market at the present time. Prices have remained without change. Sand brings 50 cents a cubic yard, inch-and-a-half gravel 85 cents and three-quarters-inch 95 cents.

The supply here is moderate, transactions being of the hand-to-mouth order. Prices, however, are firm because it is hard to operate the pits and quarries now and transportation is difficult. There is sufficient on hand, however, to take care of the market's requirements for a considerable period of cold weather.

One reason why the market has been sluggish is the hesitancy on the part of contractors to load heavily until they learn whether the city really intends to hold back further subway work pending a decision on the constitutionality of the anti-alien employment law dug up by interests desiring to put unemployed Americans to work in the subways in this city. There is approximately \$11,000,000 in new contracts that have been halted by the Public Service Commission of the first district and the sand and gravel contractors are not inclined to buy heavily until they know whether this is merely a temporary move.

TIOGA GIVES SMOKER TO ROAD DELEGATES.

A large number of delegates to the Good Roads convention and the Bankers' meeting in Alexandria, La., late in December, were the guests of the Tioga Gravel Co., at a smoker, given at Hotel Bentley.

Splendid addresses were made along the line of good roads by Lieutenant-Governor T. C. Barrett and Hon. John H. Overton, Alexandria.

In referring to the part that the Tioga Gravel Co. is playing in the good roads movement, the speakers referred to the magnificent plant that they are maintaining in the pinewoods four miles north of Alexandria, on the Iron Mountain railroad. The

company has \$300,000 invested in the washing plant and railroad. The washing plant is of the most modern construction designed by Raymond W. Dull Co., Chicago, and the quality of the gravel being gotten out by the company of a high character.

The Tioga Gravel Co. is shipping to all parts of the state, and to neighboring states, hundreds of carloads of gravel for paving purposes. The speakers urged the people of Alexandria and Rapides to take advantage of the excellent opportunity that they now have of paving their streets and country roads with this material.

CRUSHING PLANT IS BURNED.

The stone crushing plant owned by Patrick Clark, located along the interurban line near Buffalo Rock, two miles west of Ottawa, Ill., was destroyed by fire Dec. 13. The loss is said to amount to about \$8,000, carrying insurance to the extent of \$5,000. There is no water supply at the plant, and only a small building was saved. The origin of the fire is not definitely known. The plant was operated by electricity, and one theory advanced is that crossed wires were the cause. Another theory is that the blaze was due to friction of a belt which rubbed along a wooden carrier.

The plant comprised the hoisting department, which raised the crude material from the pits up to a height of 32 feet into the gravel bin and crusher.

The gravel bin, which was of several tons' capacity, was burned to the ground. The crushing department, at the opposite end of the building from the hoisting section, was a total loss.

A string of gondola cars were on the siding at the gravel pit, one of which was destroyed.

PITTSBURGH DISTRICT QUIET.

Pittsburgh, Pa., Jan. 4.—Very little is doing in the sand business here at present. The usual slump in operations during the winter is noticeable, although the rivers have been open and some sand companies are doing considerable digging. There is a disposition on the part of the local concerns to force a little better scale of prices this year, as competition the past season has been altogether too close to permit of any satisfactory profit. The Rodgers Sand Co. is doing some repairing to its boats and diggers and getting ready for a big year's business in 1915. Its new boats, which were put on last year, have been a big aid in its extensive river business.

NEW INCORPORATIONS.

Crystal Lake Concrete & Gravel Co., Crystal Lake, Mo.; capital, \$5,000; Frank L. Wolek and others.

Penn Sand & Gravel Co., a Delaware corporation, have been authorized to do business in New Jersey; Guarantee & Trust Co., 417 Market street, Camden, N. J., are agents.

NEWS FROM THE FIELD.

The Tishimingo Gravel & Cement Co. will erect a \$140,000 plant at Attica, Ind.

The Universal Sand Co.'s plant near Festus, Mo., burned recently.

Eastern Gravel Corporation, 111 Broadway, New York City, has leased offices in that building.

* New England Manager of Sales, Lehigh Portland Cement Co., Boston, Mass.

A STUDY OF SAND FOR USE IN CEMENT, MORTAR AND CONCRETE.

(Continued from Page 35.)

Ottawa sand; this under the Standard requirements for cement necessitates a minimum of 140 lb. tensile strength for the commercial sand at seven days. For practical purposes the comparative tests could be omitted and a limiting tensile strength at seven and 28 days be fixed. However, another and most important condition lies in the fact that cement mortar in concrete is not of the normal consistency fixed in laboratory practice, and is usually made much wetter, carrying from 40 to 65 per cent more water. Excess water affects some cements and some sands more than others, and if one wants some approximate idea of how the concrete in construction is to develop, the commercial sand should be tested with excess water and in the same proportions with cement as used in the work; this may show such reduced strength that we shall be led either to condemn the sand, increase the amount of cement, or decrease the amount of water, and the latter could very often be done with much advantage to the work, even though the results appear satisfactory to the casual observer; in fact, an increase in the amount of cement, if still used with an excessive amount of water, will not produce the desired result. Some sands are comparatively soft and weak, or contain an appreciable percentage of coarse particles that are weak; such a sand in the presence of water, a hard gravel or broken stone, when tumbled about in a concrete mixer, will be crushed to dust, and the added fine material may seriously weaken the concrete. Failures of sand in construction are recorded when they had been tested and passed the laboratory normal consistency test; on retest with excess water the trouble was located.

Examination of sand under a strong magnifying glass will give valuable indications of its quality to the trained observer, and some attempt should be made to determine the relative hardness or soundness of the characteristic particles, particularly those of a non-siliceous nature. Coarse sand, well-graded, is superior to fine sand for strength and density; cement improves slowly in fine sand and much greater care and more labor is required to secure a thorough mixture; in many cases fineness is cause for rejection. Much good would result from occasional inspection of the sand or gravel banks supplying work, to see that the loam or overburden is properly removed, and also observe the formation and consider the possibility of occasional, or even frequent, team or car loads of inferior sand, that might escape detection on the work.

Much concrete is made entirely too wet, and if in this condition much tamping, spading or forking be done, the coarse aggregate will be driven to the bottom of each layer placed, and a very unequal distribution of cement throughout the mass will follow; laitance on the top of each layer is also developed, destroying the bond of the work to follow. Prolonged mixing with much less water will produce a very soft and mushy mix; concrete of this consistency will not segregate, workmen sink into it above their ankles, but when the foot is withdrawn the hole does not fill with free water; too much water serves to undo the work of thorough mixing.

The following table shows the tensile strength of Portland cement mortar mixed in the proportion of 1 cement to 2 sand and gaged with different percentages of water, ranging from 8 to 20 per cent. Sand known locally as "Plum Island" sand was used with high-grade cement. The results given are the average of three briquettes. Percentage of water used was determined on the combined weight of cement and sand. Briquettes were immersed in water until broken after remaining 24 hours in a moist air closet. The injurious effect of using too little water is plainly evident in the 8 per

cent series and requires no further emphasis. Up to six months the superiority of the drier mixtures, excluding the 8 per cent series, is quite uniform, and it would appear that from 12 to 15 per cent water would give the best results in a mortar of this composition, namely, 1 cement to 2 sand. Fourteen per cent water will yield a very plastic mortar if properly tempered:

Portland Cement Mortar, 1 Cement to 2 Sand.						
Tensile Strength, Pounds per Square Inch.						
Water, per cent.....	8	12	14	16	18	20
Time of Test.....						
7 days	261	433	392	368	338	301
28 days	344	470	447	436	422	407
3 months	344	490	494	491	457	454
6 months	392	543	536	497	472	430
12 months	300	463	478	464	446	474

While this test also shows a very good recovery in the wetter mixtures (18 and 20 per cent water) at 28 days, it must be kept in mind that Plum Island sand is very clean and contains practically no very fine material to affect and retard the strength; there was also practically no opportunity for segregation owing to the size of the briquettes and method of molding.

Few unwashed natural sands are free from dust, of a loamy or clayey nature, containing organic material, and in specifications calling for sand clean and sharp and free from fine material the importance of excluding this deleterious agent is recognized, but it is not always possible to enforce this exclusion absolutely; and from mechanical analyses of a large number of samples, and casual inspection of sand in use at various points, I am satisfied that much sand is used that contains 5 per cent of dust, and a good deal that carries as much as 10 per cent and even more, in some instances.

Mica present in sand in quantity as low as two per cent seriously affects its strength. Clay matter is usually detrimental and its presence sometimes is difficult to detect. Decomposed feldspar has been found to greatly weaken sand mortars and its presence should always be viewed with suspicion. Organic material, in very small quantity, may cause an apparently good sand to be worthless in mortar.

The relation of tensile to compressive strength of mortars is of interest, and with a view of showing the important effect of additions of sand upon the tensile strength of cement mortar, the following tabulation has been interpolated from the diagram of cement mortar tests prepared by W. Purves Taylor, of the Philadelphia Municipal Laboratories. The results of the neat tests and the 1:3 mortar tests (i. e., one part cement to three parts crushed quartz by weight) are averaged from over 100,000 tests, while the other results are based on from 300 to 500 tests:

Tensile Strength in Pounds Per Square Inch of Portland Cement.

Proportions.	7 Days.	28 Days.	2 Mos.	3 Mos.	4 Mos.	6 Mos.	12 Mos.
Neat Cement.....	710	768	760	740	732	758	768
1:1 mortar.....	590	692	690	680	680	685	695
1:2 mortar.....	370	458	460	455	453	458	460
1:3 mortar.....	208	300	310	310	310	310	308
1:4 mortar.....	130	210	230	230	230	232	232
1:5 mortar.....	80	150	185	195	195	195	197

It must also be kept in mind that these results are obtained under practically uniform and theoretically correct conditions, in the amount of water used, thoroughness of mixing and molding and storage of samples until tested.

In closing, the writer desires to quote again in part from his paper on "Sands" given the National Association of Cement Users in 1907:

The general tendency in reinforced concrete construction, in the best practice, is toward richer mixtures, particularly for columns, beams and girders. The economy and logic of this is readily seen:

1. It makes possible the more economic handling of forms.
2. It is a safeguard against the dangers of average poor sand.
3. It means added strength and insures closer and more perfect contact with the steel.
4. It reduces to a minimum the personal equation in mixing and placing the concrete, the latter operation sometimes called "unmixing."
5. It means better fireproofing in that the aggregate and steel are better covered and protected.
6. It is denser, stronger and more waterproof.
7. The difference in cost per cubic yard of con-

crete is nominal and much less than appears by reason of the advantages under Nos. 1 to 6.

The actual difference in cost of cement alone, per cubic yard of concrete, is given below, the assumed cost of cement being \$1.25 per barrel net.

Proportions.	Cement Required, Bbls.	Cost Cement per Cubic Yard.
1:1½:3	1.00	\$2.38
1:2:4	1.48	1.85
1:2½:4	1.85	1.73
1:3:5	1.14	1.43
1:3:6	1.02	1.28

If reinforced concrete in building construction could be figured at as low an average cost as \$20 per cubic yard, the percentage cost of cement would be as follows for the several proportions given:

Proportion.	Cost of Cement—Percentage of Total.
1:1½:3	11.9
1:2:4	9.3
1:2½:4	8.7
1:3:5	7.2
1:3:6	6.4

Standard specifications for commercial sand, with uniform methods of testing, would be of great benefit to the professions, but until that can be effected the engineer will have to consider his own requirements with due regard to the materials available.

The best sand can only be determined as a result of tensile or compressive tests of mortars. It has been established that in the case of a clean, sound, siliceous sand, well graded to the point of minimum voids, you will get better results, if the correct proportion of cement be used, than with a similar sand, not graded, and in consequence showing a higher percentage of voids. In the case of commercial sands, however, differing in origin and physical characteristics, and percentage of voids, this rule cannot be depended upon. An example may be cited of a sand that gave very poor results, and it was suspected that this was occasioned by its inferior granulometric composition. A synthetic mixture was made of pure siliceous materials, to correspond in grading with the sand in question, and giving high results this suspicion was disproved.

The best results are more dependent upon the physical characteristics of the sand and of the fine content, if any, than upon the grading of the sand, and by the physical characteristics of the cements used. My experience has always led me to believe that an inferior sand can be expected to retard the setting properties of a normal cement, but I have actually had submitted to me a sample of inferior sand which caused a normal cement to be quick setting.

SHEET METAL MANUFACTURERS CONSOLIDATION.

The consolidation of the Eastern Expanded Metal Co. with the Penn Metal Co., which went into effect Jan. 1, gives to New England the largest sheet metal manufacturing plant of its kind in that part of the country, and it is claimed that with the additions to the modern reinforced concrete factory building now being constructed at Cambridge, it will be the largest plant east of Pittsburgh.

Under the same roof there will be manufactured every form of metal roofing, siding or other metal for exteriors, all forms of metal for interiors, concrete reinforcement, metal lath, metal corner bead, metal stud, culvert pipe for drainage, flumes for irrigation, conductor pipe, gutter, fire doors, hollow metal windows, tin doors, kalemein doors, metal window sash, battleship partitions and every conceivable form of metal work for construction. The company also maintains a highly organized department for actual construction of fireproofing in modern buildings.

George P. Bullard is president of the new company, and George A. Sagendorph is treasurer and general manager. The new concern will be known as the Penn Metal Co., the main office to be at 201 Devonshire street, Boston, with sales offices in Portland, Me., Hartford, Conn., New York City (where the export department is located), Philadelphia, Pa., Jersey City, N. J., Chicago, Ill., Portland, Ore., and Winston-Salem, N. C.

GYPSUM PRODUCTS

Gypsum Manufacture.

Gypsum, or calcium sulphate, is met with in nature in combination with water of crystallization. Chemically, the formula is $\text{CaSO}_4 + 2\text{H}_2\text{O}$, which interpreted may be expressed as about 33 per cent of calcium, 47 per cent of sulphuric acid, chemically compounded and holding 20 per cent of water of crystallization. Gypsum is found in almost every country in the world, and in the United States this compound is found near every important center.

Gypsum rock is mined or quarried in the same manner as coal, salt and other similar minerals, delivered to the manufacturing plant, and broken to a size that closely resembles mine-run coal. At the mill it is put through rotary crushers which reduce it to hickory nut size. It is then passed through a cylindrical dryer which removes free moisture and puts the gypsum in condition for fine grinding; then reduced by buhr stones or roller mills to a fineness of about 75 per cent through a 100 mesh screen; then introduced into a vertical stationary calcining kettle which contains about 15 tons of raw material to the charge.

The kettle furnace temperature reaches a maximum of about 2,000 degrees. The temperature of the gypsum inside the kettle is held above 212 degrees, the material boiling freely; this temperature rises slowly as the process of calcination progresses, until at the end of about two hours it reaches 320 degrees. The violent boiling then ceases and the mass settles down into a quiescent state, when the calcination is completed.

The charge is drawn off at once through a gate at the bottom of the kettle shell into a receiving pit. Later it is delivered by conveyors and elevators to a bin from which it is drawn for use in the manufacture of gypsum plaster tile, gypsum plaster board, and the many fireproofing hard plasters which are used on plaster board or tile or metal lath.

The introduction of fiber in the manufacture of gypsum tile is necessary only to give the tile sufficient strength to facilitate handling through the process of manufacture and shipping. The quantity of fiber averages from four to six per cent. For floor construction and steel protection, when gypsum is handled and poured in plastic condition, the introduction of fiber up to 25 per cent is customary and advantageous to the result as a whole.

There are several varieties of gypsum incombustible lath, the several manufacturers claiming advantages for their own products, but the fact remains that since gypsum is the fire-resisting component, the more gypsum contained in the lath or board, the greater will be its resistance to fire.

GYPSUM COMPANY RESUMES SERVICE.

Operation of its big barges in the trade between Gypsum, Alaska, and Tacoma, Wash., was resumed the middle of December by the Alaska Barge Co. with the sailing of the barge Palmyra for the North in tow of the tug Tatoosh of the Puget Sound Tugboat Co.'s fleet.

Since the loss of the barge James Drummond in Alaska late in October the service has been discontinued temporarily. The Drummond ran on a reef while en route from Gypsum to Tacoma and became a total wreck. She carried a full cargo of gypsum for the Tacoma plant of the Pacific Coast

Gypsum Co. and a deckload of machinery. The machinery was saved, but the gypsum was lost.

On arrival of the Palmyra in the North the tug Tatoosh will take the barge St. James in tow and bring her to Tacoma. She has a cargo for the Pacific Coast company, which operates the Tacoma plant in connection with its Alaska mines. Advantage of the lull has been taken to tune up the machinery at the plant and at the mines.

The Tacoma plant of the Pacific Coast Gypsum Co. was recently overhauled and improved machinery installed.

PLYMOUTH CONCERNS ACQUIRE MORE LAND FOR IMPROVEMENTS.

L. E. Armstrong, president of the Plymouth Gypsum and Clay Products companies, Fort Dodge, Iowa, announced a few days ago that the gypsum company has acquired land on the east side of the river, adjoining the M. & St. L. on which buildings and sidetrack improvements will be placed to increase the annual tonnage of the company by 50,000 tons.

The new plant will be maintained as a unit separate from the gypsum plant, and will handle only rock sold to users of gypsum. Portland cement manufacturers use large amounts of gypsum as retarder in cement.

Buildings will be erected on the newly acquired land for the storage of material and the easy loading of cars. The rock will be crushed at the mouth of the mine and a tramway 1,800 feet long will convey it from the mine to the new plant.

Other Extensive Improvements.

The company also is making extensive improvements to the stucco plant proper. A large warehouse, 40x120 feet in size, is being built. At the gypsum block plant additional drying facilities are being installed with two tunnel dryers for use in winter. At the retarder plant, an additional drying kiln is being put in.

At the Plymouth Clay Products Co.'s plant, three new kilns are being built to make a total of 15 kilns. All of the kilns have been enclosed in a long building so the continuous heating system may be used. Another dry pan is being put in together with elevators, additional storage bins and an additional freight elevator. The fourth floor of the big main building is being floored to afford additional drying space for the sewer pipe and tile. These improvements will give the company an increased output of 25 per cent.

Armstrong Optimistic.

Mr. Armstrong was optimistic when he announced his improvements. He believes that business during 1915 will grow and that his company should be prepared to get its share, especially in the middle West.

Operations of the Sandusky Art Marble Co., Sandusky, Ohio, have begun. The company will manufacture a very high grade of imitation marble. The company was incorporated during the last week of September for \$50,000 by Daniel and William Hoffman, Sandusky; W. E. Hughes, Clyde; T. C. Johnson, Elyria and August Heiberger of Sandusky.

No Appropriation for Art.

Editor ROCK PRODUCTS AND BUILDING MATERIALS:

I have read your article entitled "Few Decorative Plaster Designers," and, speaking for the ornamental end of plastic ornamentation and its designers, the writer would like to take issue with you on this point. In the figurative plastic designers' and modelers' work, we have such names as Lorado Taft, Charles Mulligan, Mr. Bock, Mr. Cruilly, Mr. Vandenberg and many others to boast of in this city, who are only too anxious and willing to undertake any work in the allegorical or figurative line to embellish buildings, exterior and interior, and who are fully capable and eager to await the commands of any owner of such buildings if he is able to pay the price.

In the purely ornamental lines our firm can boast of a good many capable designers who are only too eager and willing to undertake anything in their line and carry same forward in the best approved manner known in Europe or in this country.

The fault seems to rather lie with the fact that few owners in this city or country are willing to pay the price for ornamental embellishments, and therefore we see so many empty panels, pedestals without figures, niches without adornment—simply the price is not forthcoming. That, we think, is by far the fault of the masses of the people, and their not being fully educated artistically to demand such embellishments. We see in European cities rarely any public or commercial buildings of importance going up without very artistic enrichments, not because they have an abundance of designers and artists to carry out same, but because the owners are willing to pay for these embellishments and the public demands them and patronizes such houses that show those ornaments on their structures.

Why are such public buildings as the city hall and county buildings; such commercial palaces as that of Marshall Field, Mandel Brothers, Stevens Bros.' retail house so devoid of ornaments? It is the economic force of the price that stands in the way, not the dearth of capable designers and sculptors in this city. Give the artists the chance they are asking for, by not only creating empty spaces on buildings, but insert the price in your building contracts for the ornaments and the artists will be found capable to carry out their part to the satisfaction of capable critics.

THE DECORATORS' SUPPLY CO.,
Chicago, Ill.

Per Oscar Spindler, Vice-President.

The annual meeting of the American Society of Engineering Contractors will be held in New York on January 15, as provided for in the constitution. The meeting will take place in the United Engineering Societies building at 25 West 39th street. Many interesting reports will be submitted, among which is the report of the special committee appointed to revise the committee work of the society. The rearrangement of the committees will effect a radical change in the work of the society. The annual banquet and entertainment will be held at Bustanoby's at 7 p. m.

Texas Cement Plaster Co., Hamlin, Fisher county (Not P. O.), Tex.; capital stock, \$64,000; S. M. Gloyd, J. R. Kenton, T. W. McGahan, incorporators.

Tell 'em you saw it in ROCK PRODUCTS AND BUILDING MATERIALS

Daily Rock Products and Building Materials

Nine issues to be published at National Builders' Supply Association, February 8-9, and the Chicago Cement Show, February 10-17, 1915. Will contain all news of show, daily program, special features, reports of conventions held at this time, etc.

Conventions to be held in Chicago at this time are: The National Builders' Supply Association, Illinois Association of Municipal Contractors, The National Association of Sand and Gravel Producers, The American Concrete Institute, The National Conference on Concrete Road Building, The Interstate Cement Tile Manufacturers Association, and the Illinois Lumber and Builders' Supply Dealers' Association.

The Daily will be distributed completely at the show and conventions, and mailed to a selected list all over the country.

Readers will include producers and distributors of building materials, including cement, crushed rock, sand and gravel, etc., and contractors, architects, engineers, and dealers.

Write for rates

Tell 'em you saw it in ROCK PRODUCTS AND BUILDING MATERIALS

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Whitepine Portland Cement Co.
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Power & Mining Mach. Co.
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See Gypsum.

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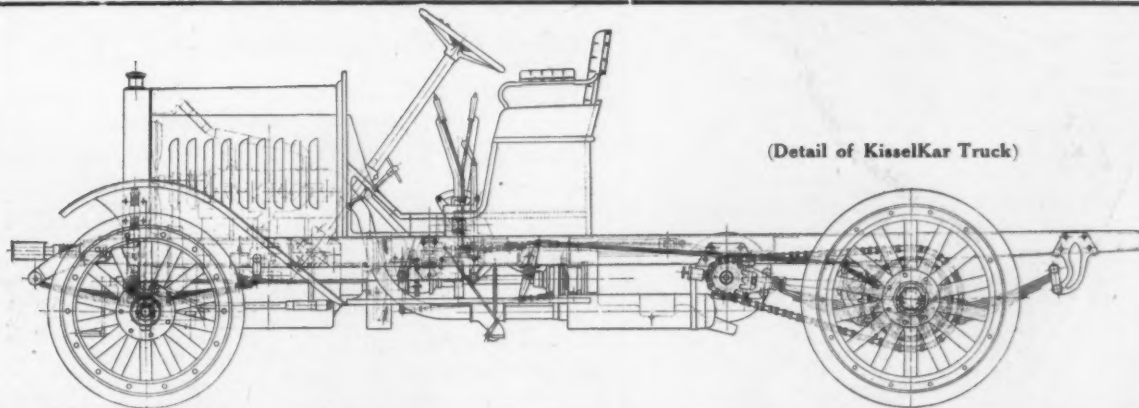
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An opportunity will be afforded to visit the Universal Plants. Passes for the trip may be obtained at the general office of the company.

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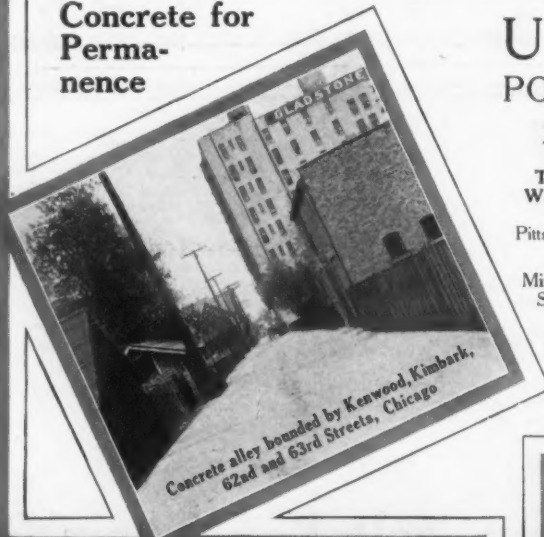
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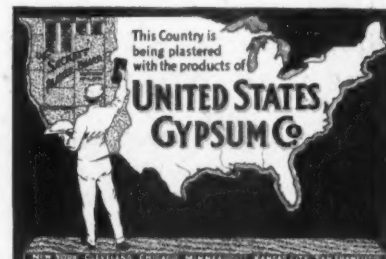
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